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Agriculture, Horticulture, and Rural Economy.

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The Renovation of Worn-out Soils.

THE ABLE ESSAY OF THOMAS MOORE, FIRST PUBLISHED IN 1801. (CONTINUED FROM DECEMBER NUMBER OF MD. FARMER 1878.

Another material evil that results from the practice of shallow ploughing, and which applies to all surfaces, level as well as hilly, is the injury the growing crops sustain for want of a more regular quantity of moisture in the soil: we know by experience, that either extreme is fatal to most of our crops; that the practice is calculated to produce both, at different periods, is evident: for, during a long continuance of wet, for the reasons before mentioned, the water must stagnate in abundance about the roots of the plants, and on the contrary, a short continuance of drought, extracts nearly the whole of the moisture contained in the thin covering of loose earth, and it is not to be supposed, that the tender roots of plants in quest of a supply, can penetrate the compact earth below, which has been hardening ever since its formation.

Hitherto I have principally alluded to summer crops; but if we observe the effects of shallow ploughing on winter crops, we shall find the injury still greater. All that has been said, will apply to them in their autumnal growth; but it is in the spring, and early part of summer, that it often proves particularly injurious, and sometimes fatal to them. Those who have been accustomed to stopping leaks, about mills, &c. know, that earth thrown into water, made to incorporate with it, and then subside, settles into a more solid mass, and becomes more impervious to water, than in any other way it can be applied; no ramming is equal to it: the same thing frequently takes place in degree, on the surface of our fields. The great rains that often fall about the vernal equinox drench, and almost render fluid, our shallow worked soils; the solution of the finer parts, entering the pores, as the water evaporates, the whole settles into a compact mass, and so remains till harvest; for, notwithstanding it may be frequently

moistened, yet no other disposition of parts, can be supposed to take place, until operated on by frost or the plough.

This state of the soil, is too compact to admit of the free extension of the roots, even when moist; but, when hardened by droughts, every particle of nutriment not in contact with some of the roots, is effectually *locked up* from the suffering plants.

So that it often, nay almost always happens, on lands worked in this way, unless very rich indeed, that crops of wheat that look promising in the fall, and early in the spring, begin to decline towards harvest; and people are complaining of the unfavourable appearance of their wheat: when harvest arrives, the straw is almost too short to cut, and the heads about half the proper length, and those not well filled, yielding six or seven bushels to the acre, where twelve or fifteen might have been reasonably expected, from the quality of the soil: these appearances and products agree with my constant observation for many years past, especially on early sowed corn ground, damages by fly, rust, &c. excepted.

If manures are applied to shallow worked soils, their good effects in general, will be of short duration, as most kinds must soon inevitably travel the road the virgin soil has, before them.

I shall next enumerate some of the good effects to be expected, and which are constantly experienced by a *contrary* practice, viz. *deep ploughing*, when judiciously pursued; and then endeavour to prove the futility of the arguments adduced in favor of shallow ploughing.

In the cultivation of plants, three things are particularly necessary: First, that sufficient pasture is prepared for their roots; secondly, that the soil abounds with proper aliment, and thirdly, that moisture be duly administered, in neither *too great* nor *too small* quantities. That *deep ploughing* is calculated to promote these ends, I believe, will not be hard to prove, particularly the first, and third.

The quantity of earth operated on, being great, it very seldom, if ever, happens, that any fall of rain is so great, as completely to *saturate* it; and until that effect takes place, or nearly so, very little change is to be expected in the disposition of its parts; and therefore when the redundant moisture evaporates, it leaves the soil as it found it, except a small crust on the surface: the succeeding ploughings, instead of being applied to repair the injury the soil has sustained by great falls of rain, go to the further pulverizing and opening it suitably to receive the capillary vessels of the plants. Thus the pasture becomes not only *more extensive*, but far *better adapted* to promote the growth of plants.

With respect to *aliment*, naturalists differ widely in their judgment respecting its nature and composition: my opinion is, that the food of plants has not yet been fully ascertained by any. This, however, we all know, that manures of all kinds, contribute in some way or other to the growth of plants; whatever may be their food, I will not pretend to say, that it is communicated to the soil by the mode of cultivation under consideration; but this I will say, that it is far better calculated than the contrary practice (shallow ploughing) to retain the quantum originally found therein, or afterwards applied to it; and further, if dews are nutritive, the superior openness of the texture in this mode, qualifies it to derive every advantage to be expected from that source.

But, perhaps the most valuable of all the effects resulting from *deep ploughing* is, that it in a great measure preserves an equal quantity of moisture in the soil; for as we seldom have a rain so great, as to produce an unhealthy stagnation of water about the roots of plants set in a soil seven or eight inches deep; so on the contrary, we scarcely ever have a drought of so long continuance as to extract all the moisture to that depth; for it is to be remembered, that after a few inches nearest the surface, moisture is extracted, by slow degrees: thus for instance, if it requires one hot day to dry the first inch, probably it will require three, for the second, six, or more, for the third, and so on, perhaps nearly in geometrical progression.

Thus it appears from the foregoing observations, that by this mode of practice the great loss sustained by *washing*, an evil so much to be dreaded in this country, is avoided; that whatever manures are applied, are safely deposited, and will act with full effect; that the growing plants are abundantly supplied, during the whole of their growth, both summer and winter crops, with an open soil, for a free extension of their roots, and also, with a regular supply of moisture; so that their growth

is at no time impeded by any small irregularity of season; the depth of soil being to them, with respect to wet and dry, what the ocean is to small islands, with respect to heat and cold; the means of a tolerably regular temperature.

I can readily anticipate the remarks of our sticklers for old practices, on what has been advanced. This reasoning (say they) well applies to rich deep soils, "let him beware of the *yellow clay*, the *dead earth*, lest the value of his land proves to be the price of his too adventurous experiments." But let me ask them, have they never seen the effects of earths taken out of cellars and wells, when applied to poor land? have they never observed the luxuriant growth of grass and weeds at the edge of a bank, taken from a mill-race, or large ditch, and frequently on the very top, when flat enough to retain moisture? for my own part, I have long been in the habit of observing these things, and do not recollect that I ever saw any earth taken from a considerable depth below the surface, which was capable of being pulverized by frost or tillage, without evident advantage, even when clay has been applied to clay, and sand to sand. Seeing this is the fact, is there any good reason for supposing, that, as we ascend toward the surface, such a difference will be found in the properties of the earth, that this will render the same land sterile, that the other will enrich? I confess I see none; I cannot even see, why we may not with propriety suppose, that the first six inches of earth next below the usual ploughing, should be possessed of all the fertilizing qualities, that the same kind of earth would be, if found six feet below.

It would seem then, that by this mode of cultivation (*deep ploughing*) on exhausted lands, the quantity of soil would not only be increased, but actually enriched. On lands, covered with two or three inches of rich mould, it will probably have a contrary effect in some degree, yet even in this case, the advantages resulting from an increase of quantity, will be found abundantly to overbalance the small abatement in quality.

Their prejudices, in all probability, have proceeded from injudicious experiments; very few planters break up ground in the fall; in the spring their teams are often weak, and were they disposed to plough a spot deeper than usual, would very likely choose to do it when wet, on account of its being easier performed; soon after which the crop is to be planted or sowed, which proves the worse for the experiment, and the planter is disgusted with the practice: he informs his neighbours of the ill success of his experiments; and perhaps, a whole neighbourhood is thereby afresh confirmed

in their former belief that the good old way is best —to plough as deep as they find black soil, and no deeper.

Ploughing land that contains a considerable portion of clay, in the state *too wet* to break, as the furrow leaves the plough, is, thereby rendered more *compact*; and when hardened by the sun, becomes entirely unfitted for the production of vegetables; and is scarcely to be reduced by any succeeding tillage during the same summer; indeed, I believe, nothing short of a *winter's frost* will effectually *pulverize* it. The best devised system of practice may be rendered entirely abortive, by being put into the hands of unskillful practitioners to execute.

Lands that are to be ploughed much deeper than usual, ought to be broken up in the fall; and would be the better to be ridged, that more surface might be exposed to the frost: If omitted till spring, it ought to be done as soon as it becomes dry enough to break freely before the plough. No crop should be put in that season, that requires to be seeded before it can have several ploughings and harrowings at proper intervals; otherwise, the expectation of the cultivator will probably be blasted.

If, notwithstanding what has been advanced, I should be called upon for proofs—should be told that the evils complained of on one hand, are, in a great measure, ideal; and that the advantages proposed on the other, are theoretical, and remain to be confirmed by practice. With respect to the first, it would, perhaps, only be necessary to say—what further proofs need we, to convince us that the practice of agriculture, particularly in the Southern States, is miserably defective, than the deserted old fields that so frequently present their disgusting surfaces from Susquehanna to Georgia? Some years ago I was of opinion, that this speedy reduction of soil, was altogether occasioned by the nature of the crops cultivated thereon; but on attending more accurately to the subject, I am of a different opinion, and believe, as I have already said—it is more from the *manner of cultivation* than from the *exhausting properties* of the crops; of this, one thing has tended to convince me; I have observed, that when an industrious person, from another state or country, where the cultivation is generally *deeper*, has settled on these exhausted lands, that they frequently improve for some years; although the *same crops*, or those equally as *exhausting* are cultivated; and, instances I have known, of some of these old fields becoming very productive without manure.

Almost every summer furnishes abundant proofs of the great disadvantage of the practice of *shallow*

ploughing, to both summer and winter crops; if we were but disposed to open our eyes and look for them. A very curious one lately happened on my own farm.

A field was sowed with wheat by a tenant, the ploughing from three to four inches; a deep hollow extended across part of the field, in a direction nearly east and west; the side exposed to the north tolerably good, the south exposure very rich; as might be expected, the wheat on the strongest soil made the most promising appearance in the fall, and also for some time in the spring; in the early part of which clover seed was sown on the whole, which came up well; a drought came on late in the spring; the wheat soon showed the effects of it; and the drought, continuing, a considerable part entirely *perished*; the north exposure also suffered, but being more shielded from the action of the hot sun, was not so effectually dried. At harvest it was much the best wheat, notwithstanding the superior richness of the soil on the other side. A still greater difference appeared in the young clover: on the south hill side it was almost entirely killed, on the other very little injured.

I have had some experience of the beneficial effects to be derived from *deep ploughing*; but the obstructions in most of my fields (particularly large stones just below the surface) have prevented my adopting the practice so fully as I could wish; yet the success that has always attended my experiments, in conjunction with my observations on the practice of others, has been conclusive evidence to my mind.

In the year 1795, I took possession of my present farm, and had a field ploughed for wheat, which had been thought for several years before, too poor to cultivate, either in wheat or Indian corn: I saw rye growing on the best part of it, two years before, just before harvest, that I think would not yield two bushels to the acre. It was ploughed early in the spring, about eight inches deep, and repeated with harrowings, at proper intervals, several times during summer; it was sown about the last of the ninth month. The soil being weak, the growth in the fall was slow, as also in the spring, yet regular, the colour always good and no appearance of suffering, either from *drought* or *wet*; at harvest, the straw was not tall, nor thick on the ground, but the heads large and well filled; the product, between fifteen and seventeen bushels per acre, except a part of the field, sown with a kind of wheat I was not before acquainted with, which was too thin, in consequence of a short allowance of seed. I observed the state of the soil, from time to time, until *harvest*, and found, that

even then, it was open and in good tilth, except a crust of two or three inches, next the surface.

In the spring 1796, with a large plough and four horses, I broke up part of a field; I measured the ploughing frequently, and found it in many places eleven inches deep, and no where less than seven; so that the average was at least nine. This piece contained about four acres, on a gentle declivity; the surface too much exhausted, to pay for cultivating any crop in the common way: this ploughing brought to the surface about five inches of earth, that had never before been exposed, which was principally clay; at the upper edge of the piece, of a bright yellow, which became gradually paler, further down, and of a bluish appearance near the lower side. After several stirrings, it was sown with buckwheat the same year; the crop tolerable; after the buckwheat came off, the ground was ploughed and sown in rye, in the eleventh month, very little of which came up, owing, as I suppose, either to its being too late put in the ground, or the seed not good. It remained without further tillage, until last year (1800) when it was again sown in buckwheat, which grew so large, as generally to fall. Before it was ploughed in the spring, I took several of my friends to see the difference in the appearance of this piece and the ground adjoining, that had lain the same length of time out of tillage; it was discernable to a furrow; the *deep ploughed* piece appeared of a fine open texture, and dark colour, thick set with white clover; the adjoining ground, compact and hard, of a pale ash colour, bearing scarcely a blade of any other kind of grass, than that common to old fields, known by the name of poverty grass. In short, one had the appearance of an exhausted old field, and the other of land lately manured. Those who expressed a sentiment on the subject, were of opinion, that to those who did not know what occasioned the difference, the *deep ploughed* piece, would sell for double the price of the other.

Part of another field, from having a very retentive clay near the surface, was of that kind called cold, or sour land, and was thought unfit to produce any crop; either water or ice generally appearing on the surface, in an open time in winter. This was so thick set with white flint-gravel and stones, that the first ploughing could not be deep; but having cultivated several crops on it, taken off the largest of the stones, and consequently been able to get a little deeper at each succeeding ploughing, the nature of the ground seems altered, so that now there is seldom either water or ice to be seen on its surface, more than is common to other places. It is now in red clover, very little of which has been injured by the late open winter.

This piece has been manured; it is therefore, unfair to ascribe the quantity of the crops, which have been good, to deep ploughing only; though I am of opinion, that on such land, manures are not of much consequence without it.

I might have before observed, that one of the objections that will probably be made to *deep ploughing*, is the greater strength of team that will be requisite to perform it, and consequently an additional expense. This I believe, on consideration, will also be found to be without foundation. True it is that the first ploughing requires more strength of team; but then it is equally as true, that if the plough is a good one for the purpose, almost double the quantity will be performed in a given time. The four acres above mentioned, was ploughed by four horses in less than two days; the furrows averaged seventeen inches in width. And as ground ploughed in this way will not acquire the same degree of firmness for many years afterwards, although it should remain untilled; it will be found, that three horses to a plough will be sufficient for after ploughings, even for a grass-lay; and that two such teams will perform as much in a day as six horses in three ploughs of the common kind, and of the common description of ploughing. Here then is a ploughman saved. In addition to this, it is to be remembered, that for reasons before given, land cultivated in this way, will be preserved in good tilth with much fewer ploughings than in the other mode.

Thus, let the subject be considered on whatever ground we choose to take it up, either with respect to the preservation of the soil, the quantity of produce, or the quantum of labour bestowed, the advantage is greatly on the side of the method proposed.

But, let me again repeat it, that those advantages depend in great measure on the manner of performing it. It must never be forgotten, that ploughing when the soil is very dry, is of no other consequence than to destroy weeds; but when over wet, in stiff soils, the mischief is incalculable; it is at least irreparable for that season.

If any should be still disposed to condemn the foregoing observations untried — to say, that if those extraordinary advantages will result from *deep ploughing* that are ascribed to it, they certainly would have been long ago discovered, and the practice universally adopted; that a great proportion of the inhabitants of the United States, being engaged in the business of ploughing nearly one half of their time, it is not reasonable to suppose those things could have escaped their observation.

As a full answer to such, let me call their attention to some of the absurd practices that the best

of our cultivators are but just emerging from ; and that probably they themselves remain in; let them view their own practice in these things, and then say, whether they feel that consciousness of perfection, that will justify them in condemning proposed improvements without trial.

Let them reflect a moment on the propensity that almost every planter feels for clearing a piece of land every year, which is very commonly continued until there is little or no wood left, either for fuel or fences ; and very often it happens that in the latter stages of this erroneous conduct, more than half their cleared land is so far exhausted, as not to be worth cultivating ; more acres of which, than they annually clear, it is amply within their power to reclaim and render as fertile as ever it was, and that with half the expense ; yet strange to tell, every acre is neglected, while the clearing business is pursued with avidity, until at length, the fatal blow is struck, and necessity compels them to part with their murdered estates for a trifl, and seek refuge in the Western country. Witness some of the lower counties of Maryland and a great part of Virginia.

[TO BE CONTINUED.]

The Resources of the United States for Sheep Husbandry and the Wool Manufacture.

ADDRESS DELIVERED BEFORE THE NATIONAL AGRICULTURAL CONGRESS AT NEW HAVEN, CONN.,
ON THE 28TH OF AUGUST, 1878, BY HON. JOHN
L. HAYES, LL. D., SECRETARY OF THE
NATIONAL ASSOCIATION OF WOOL MANU-
FACTURERS.

In the middle of the last century there lived in England a gentle scholar, by name John Dyer, whose discursive mind had led him to forsake the profession in which he was initiated, and in which his father was distinguished,—the law — for art and literature. Entering the Established Church, according to the ideas of his time and country the most suitable field for these pursuits, his productions—notable among which was a poem on Groner Hill, a word picture of English scenery—gained him patrons. To his first very modest living were added others, until, in the evening of his life, he found the competence and repose which enabled him to write, and to publish in 1757, his chief work, the great English pastoral poem, the "Fleece," its topics being the "care of sheep, the labors of the loom, and the arts of trade." Notwithstanding the affectations of style peculiar to the period, and the traditional treatment of a pastoral subject, this work—as an exhaustive treat-

ise on the sheep husbandry of the period, as a representation of the then existing textile arts, as a pictorial map of the course of British trade, and as a repository of all the classic traditions and associations connected with sheep husbandry and wool manipulation—is one of the most valuable legacies left us from the golden age of British literature.

The poem, however never became popular, in spite of the tribute to the author by his contemporary and brother-poet, Akenside, who declared that he would regulate his opinion of the reigning taste by the fate of Dyer's "Fleece;" for, if that were ill received, he would not think it any longer reasonable to expect fame from excellence.

Dr. Samuel Johnson, to whose coarse mind all common things were ignoble, says of this poem, "It is universally neglected, and I can say little that is likely to call it to attention. The wool-comber and the poet appear to me to be such discordant natures, and to attempt to bring them together is to couple the serpent with the fowl. When Dyer, whose mind was not unpoetical, has done his utmost by interesting the reader in our native commodity, by interspersing rural imagery, and, incidentally, by clothing small images in great words, and by all the arts of delusion, the meanness naturally adhering and the irreverence habitually annexed to trade and manufactures sink him under insuperable oppression." We might wonder at this illiberality on the part of so great a scholar, if we did not consider that, within the memory of most of us, similar sentiments as to trade in all products but one, and as to manufactures in general, prevailed among the most cultivated classes in many of the proudest States of our own country.

Over a century has passed since Dyer (to use Johnson's clumsy witticism) was buried in his woollens ; but how much wiser now seems the poet than his illustrious critic ! The poet saw in the fleece and the loom the great source of England's commercial supremacy. He doubtless remembered the words of the quaint old "Golden Fleece," published just a hundred years before his time: "Wool is the flower and strength, the blood and the revenue, of England." With prophetic vision, he pictures the towns which were to spring up through the trade in fleece and web. As was the scene which Virgil describes of "Hurrying Carthage, where the Trojan Chief First viewed her growing turrets the echoing-hills repeat The stroke of axe and hammer; scaffolds rise, And growing edifices; heaps of stone Beneath the chisel beauteous shapes assume

Of frieze and column."

"How far do Bradford, Leeds, Huddersfield, Halifax,—all built up by the wool manufacture, and mostly since the poet's day,—surpass his predictions?

Looking beyond the seas, he sings, a day will come

"When through new channels sailing we shall clothe

The California coast."

and he continues,—

"That portion, too, of land, a tract immense, Beneath the Antarctic spread, shall then be known, And new plantations on its coast arise.

Then rigid winter's ice no more shall wound

The only naked animal; but man

With the soft fleece shall everywhere be clothed."

California, with its six million sheep and its magnificent mills, and Australia with its flocks of over sixty million, almost literally contributing clothing from their soft merino fleeces to the whole world, are more than fulfilments of these prophecies; for what is predicted of Englishmen may be claimed for all their descendants. The Australian wool trade, centring in London, employs more tonnage than all the British trade in wool textiles did a hundred years ago. Thus is verified the poet's description of London, where trade, "enthroned amid a thousand golden spires gives audience to the world;" and his lines—

"What bales! what wealth! what industry! what fleets!

Lo, from the simple fleece how much proceeds!"

Dyer lived in the time when the work of spinning and weaving, conducted only in scattered households, began to be concentrated in large buildings employing many workmen. The change of system was very salutary in its effect upon the moral character of the work-people, and was hailed with delight by the benevolent. The first experiment of concentrating textile labor was made in the workhouses of Bristol and Birmingham. The poet carries his reader to one of these houses, in which he

"Views with wonder and with silent joy

The sprightly scene, where many a busy hand,

Where spoles, cords, wheels, and looms with motion quick

And ever-murmuring sound, th' unwonted sense wrap in surprise."

This was the dawn of the factory system, which created the existing textile manufacture; covering England with its palatial mills, and employing in cotton alone, 35,000,000 spindles, 400,000 looms, and 650,000 workmen.

The poet lived also in the time when the ancient distaff was still used for spinning in Norwich and Suffolk, and when the double-spooled wheel was a novelty. But the marvel of his time was Paul's invention of roller spinning; in which rollers or cylinders, through which the wool or cotton is drawn, are the mechanical substitutes for the thumb and finger of the hand-spinner,—an invention often, with great injustice to Paul, attributed to Arkwright. Dyer gives the first contemporary description of this invention, his book having been published three years before Arkwright took out his first patent.

"But patient art,
That on experience works from hour to hour,
Has a spiral engine formed,
Which on a hundred spoles, an hundred threads
With one huge wheel by lapse of water twines,
Few hands requiring; easy-handed work,
That copiously supplies the greedy loom.

. . . it draws and spins a thread
Without the tedious toil of needless hands."

The carded wool, he says,—

"Is smoothly wrapped around those cylinders
Which, gently turning, yield it to yon cirque
Of upright spindles, which, with rapid wheel,
Spin out in long extent an even twine."

The introduction of this simple machine, it would seem, was looked upon with apprehension by the spinning women of the time (the absurd notion, recently revived, that machinery destroys the laborer's occupation, prevailed a century ago); for the poet continues,—

"Nor hence ye nymphs let anger cloud your brows;
Blithe o'er your toils with wonted song proceed;
Fear not surcharge: your hands will ever find
Ample employment."

Could he have dreamed that an improvement which seemed so vast, because it increased the spinner's power a hundred-fold, would be developed, as it is now, so that one mill in a single day, with the expenditure of force derived from seven tons of coal, can do the work of seventy thousand spinners of former times.

I have referred to this poem, partly that I might anticipate the objection which may be made to the meanness of my subject; partly to suggest that my seeming exaggerations may in time be disproved, as in the case of the enthusiastic poet; and partly to invite the attention of my sheep-growing friends to a work so obsolete that no American edition of it has ever been published, but in which they will find a source of that delight which comes from weaving into the web of the homeliest pursuit the golden threads of poetic thought and classic associations. Do not believe,

with the great moralist, that the poet and the wool grower or wool-worker are of "discordant natures." No grower ever bred a flock of perfect fibre and form, no workman ever designed and executed an artistic fabric, who was not impelled by that enthusiasm, that passion for the ideal, which is the soul of poetry. The wool-comber, and poet of discordant natures! Look at Heilmann of Mulhouse, the inventor of the mechanical wool and cotton comber,—an invention which has revolutionized the wool-growing of the world as well as the wool manufacture of the world. Heilmann was a contemplative dreamer,—what some would call a "fancy man." Idly watching his daughters as they combed their luxuriant hair, the idea of his wool-comber flashed into his mind from the methods which they used. And thus it may be said that an invention which ranks among the first in the century (for all the manufacture of ladies' worsted dress-goods is due to it) was made by one of those dreamers whom the elegant Buckminster describes, after Milton, as those who

"Sport with Amaryllis in the shade,
Or with the tangles of Neala's hair.

COUNTRY ROADS.

Road making as an art is but poorly understood by the majority of our highway surveyors and road masters, and what they do know is not always well carried out. There is, no doubt, a gradual improvement in our highways. The loss and injury occasioned by gulling and wash-outs are so great that those means by which stability of the traveled way is secured, and getting to be tolerably well understood. But the other points, such as securing easy grades, conducting a road over a swamp, the management of clayey or mucky soils, and the removal of stones, both fixed and loose, are all matters in which our rural road-builders may easily improve their methods. In every farmer's club, grange and agricultural gathering for the discussion of rural affairs, road-making should be made a matter of frequent consideration.

The losses by reason of bad roads are very large—far greater than the cost of maintaining good ones. But they are so uncertain as regards particular instances, and so divided among all hands, that the sum of them is not realized as it ought to be. The load that can be drawn over a road is limited by the load that can be drawn over the worst places, just as the strength of a chain is only the strength of its weakest link. The strains thrown upon the different parts of a wagon or carriage, upon the bolts and braces, the wheels, axles,

pole, shafts and on the harness, (to say nothing of horses), by steep grades and the unevenness of the road-bed, by deep mud, and by stones, are also matters that are large enough in detail, but form a monstrous aggregate far beyond the conception of those who do not figure in regard to them. We believe that there are few traveled roads in the country on which the unnecessary injury to vehicles alone would not pay, and more than pay, for the cost and maintenance of a first class turnpike.

There is one thing, in particular, which would cost but little to remedy, that is very destructive to wheels, the most costly parts of every vehicle, and which is also the cause of very great injury to horses. We refer to the loose stones left upon the surface of the road way—thrown upon it, in fact, when the roads are repaired, and left there the whole season afterwards. These stones could be all thrown off in a very short time and at very little expense, but they are very rarely attended to. How many loosened and broken tires they cause, and how many horses' feet are injured by these provokingly loose stones in the road?

Other bad things, easily remedied, are the holes and hollows worn in the road by wheels, and rapidly increased in depth by the softening caused by the collection of water in them after rains. These holes break more axles, bolts, braces and spokes, ten times over, than the cost of filling them up would amount to. A "stitch in time" is here most important, but few road-masters will attend to the matter as they should.

We repeat that these are things worthy of frequent discussion among farmers, so that knowledge regarding the proper remedies may be disseminated, and, above all, a public opinion be created in favor of good roads. The civilization of a community is almost as well gauged by the condition of its roads as by the quantity of soap it uses.—*Rural New Yorker.*

Sowing Oats and Wheat together.

An experiment was tried in Iowa of sowing in the fall, upon one acre of land, two bushels of wheat mixed with one bushel of oats. The oats shot up rapidly and were, of course, killed down by the frost. But they furnished a warm covering for the earth, and when the snow fell among the thick stalks and leaves they kept it from blowing away. This covering prevented the winter-killing of the wheat, and the rotting oat leaves and stalks afforded a rich top dressing for the crop the following spring. The result was an abundant yield of wheat, while land precisely similar alongside of it, and treated in the same manner, with the exception of omitting the oats, was utterly worthless. *Weekly Enquirer.*

THE APIARY.**To Honey Producers and Consumers.**

The Bee-Keepers' Association of North America, in session in New York city, October 8 to 11, 1878, realizing the increasing importance of honey production and consumption, respectfully submit the following facts, which are no less important to the consumer than to the producer of honey.

It is now only a few years since the invention of *movable-comb hives* opened up a new era in bee-keeping, making it a successful pursuit. Such hives, adapted to climate, furnish every facility for intelligent management and manipulation of both bees and comb.

The invention of the *honey extractor* (a machine which empties the honey from the combs by centrifugal force, without injury to the bees), marks another advance step in apiculture. Thus virgin honey, free from foreign admixture, is obtained, having the flavor of the flower from which it is drawn.

The further invention of comb foundation, made of pure wax, completes the requisites for successful bee-keeping.

The introduction of Italian bees and improved methods of rearing queens and introducing them to colonies, has greatly improved the value of the honey gatherers, both because of their superiority and the introduction of new blood, preventing danger from "in-and-in breeding."

The great drawback is the *sting* of the bee. Danger from this source is now largely overcome by the simple appliances used for the protection of the person and for subduing the bees. The most vicious colony may be subdued in a few minutes.

[TO CONSUMERS OF HONEY.]

A few facts are necessary to preserve them from imposition. Nice white comb speaks for itself and is generally admired, but the price many lovers of honey will not afford. It makes a beautiful dish for the table, but is no better than *extracted* honey. All comb is wax, and in the stomach it is perfectly indigestible. Extracted honey is the pure liquid honey, taken from the combs by the honey extractor. It is entirely different from what is known in the market at *strained* honey. Consumers help to impose upon themselves by the false idea that pure honey will not granulate. They desire ungranulated honey, and dealers have attempted to supply the demand. Almost all pure honey will granulate when exposed for some time to light and cold. The granulated state is an evidence of purity. Much of the jar honey heretofore sold and recommended not to granulate, is a very inferior

article, composed largely of glucose. Granulated honey can be reduced to its liquid state in a few moments by placing the jar in warm water. When thus liquified, it so remains for some time before again crystallizing. Consumers may be sure of a wholesome article by purchasing granulated honey and reducing it.

We would respectfully call upon producers and consumers to unite their efforts to procure, by petition or otherwise, such legislation in their respective States, as will prevent the placing of any adulterations on the market under the name of honey. This becomes the more important, since, during the past year, some American honey has been condemned in Great Britain, as adulterated. We certainly ought to prevent the sale at home of such adulterations as are forbidden in European countries. We suggest the following tests to prove the purity of honey:

1. Honey adulterated with a poor article of glucose, will when poured into a cup of strong Japan tea, turn black, by the action of the tannic acid upon the copperas left in the glucose.

2. A purer article of glucose is detected by pouring strong alcohol on it in a tumbler. The alcohol will dilute pure honey, but it will cause a gummy substance at the bottom of the glass.

TO PRODUCERS.

By full use of improvements in bee-keeping, the honey crop of America may be almost indefinitely increased, and become a great source of national revenue. The home demand and consumption is largely increased whenever people learn to know the superiority of such honey. A large export trade is already commenced, and we are told that the only difficulty is in procuring honey in proper shape and quantity to supply the growing demand. This should be put up in attractive packages or small jars, so as to be readily handled by grocers and consumers.

Honey was for centuries the principal sweet known, and is still one of the most healthful. Improvements in refining sugars have within the last two or three centuries led to its general adoption. Why may not also new improvements in apiculture restore it to its true place as a general favorite, which was lost by bad management and the consequent corresponding limited supply?

Improvements in bee-keeping, as compared with old methods, are not less than those in railroads and steamboats as compared with former methods of travel.

For mutual information we would advise the organization of local societies and conventions to further this business among all interested in apiculture.

THOMAS G. NEWMAN, *Prest.*

E. PARMLY, *Sec'y.*

KENWOOD, DEC. 7, 1878

NEAR CHARLOTTESVILLE, VA.
EDITORS MARYLAND FARMER;

Believing at this time that some good may be done somewhere among your large constituency by a short article on honey and bee culture, I avail myself of the invitation.

Honey is one of the purest sweets in nature, and it has been an important product since the early ages of the world, but, never before has it assumed such commercial importance as at the present time. And since such great advances have been made in methods of production, and the general management of bees, an impetus has been given to production, such as to cause some fear that the markets will be overstocked.

I take it that such fears are ungrounded. The American people are the largest consumers of sugar in the world, and we import many millions of dollars worth annually, and since it is found that honey can be usefully substituted for sugar to a large extent in cooking, and furthermore, when it becomes known that our sugars and syrups are now adulterated to a fearful extent, and in many refineries to an extent, that makes them positively injurious as articles of food ; it will be found that the demand will keep pace with the supply. Besides it is already entering quite largely the market as an exportable commodity, helping to swell the enormous aggregate of our country's productions now sent abroad. A New York paper recently stated that eighty tons of fancy honey was sent to England on one steamer.

We now lead the world in this pursuit, and have the markets extended, as we have in very many other forms of production in consequence. For twenty years I have heard that fruit production was going to exceed the demand. It is not many years since the first grapes raised on the Hudson were peddled from a basket in New York at six cents a pound. Now, million of pounds are shipped there annually, and taken at prices greatly above that. Indeed, the general range of prices for fruit is, notwithstanding the vastly increased productions, much higher than it was twenty years ago.

An exceptionally large crops of honey in any one year might lower the price, as it does on apples with such a crop as was borne this year. But I am sure no one will regard that as a calamity.

There are thousands of locations, where all the farmers may not only have produced all the honey they can use, but also enough to buy all their sugars and syrups.

I am aware of the repugnance of most people to any contact with what Mr. Billings calls the busi-

ness of the busy bee. But, since methods have been devised for protection against assault and for the speedy subjection of bees that repugnance to handling bees may be readily overcome. When men realize the fact that single colonies have been so managed as to produce 566 pounds of pure honey in one season or 55 gallons, and that there are many bee keepers who produce more than four tons annually, while there is one that shipped twelve car loads two years ago ; the range of possibilities in the art may be conceived. It is true these men make a special business of it, which few farmers can do. It often happens that the whole flow of honey comes in so short a period as to tax to the utmost the keepers ability to manage it. But those driving periods are common to most other pursuits.

It is not my purpose in this article to enter into any account of my own experiences nor my views as to management. In a future article I will do so if desired.

To awaken an interest in the subject, is my object to the end that honey may not only be more abundantly produced, but also more generally consumed, so that every home in the land may have an abundance, and our glorious country become a land "flowing with milk and honey."

No large capital is needed, nor is the purchase of any patent hive or fixtures needed. Indeed, all should be warned that there is no essential hive or implement that is not free to the public. Good hives are now made of many different kinds and so cheaply as to be within the reach of all.

Artificial comb foundation is now made and furnished cheaply and by its use the apiarian can prevent undue production of drone comb, and of many, more than useless drones, and also secure straight sheets of comb.

With the extractor, honey can be thrown out and the combs replaced in the hives, thus saving the time required to build and the great consumption of honey required to make new combs, which will be appreciated, when it is remembered that it takes twenty pounds of honey to make one of wax, according to the best authorities.

J. W. PORTER.

The duke of Magenta, a three year old colt which was sold after the Baltimore races by George Lorillard to Pierre Lorillard to go to England, won as a two year old colt in round numbers \$10,000, as a three year old \$37,000 and then sold for \$20,000 and contingencies, making for his owner about \$67,000 in two years.



'QUEEN OF THE MARKET' Raspberry.

HORTICULTURAL.

MR. PARRY, of Cinnaminson, N. J., has kindly favored us with a cut of his fine "Queen of the Market" Raspberry, which he describes as follows:

"The largest, handsomest and best productive, hardy Red Raspberry: flesh, firm and delicious, carries well and sells better than other varieties in market, hence its name; color, a beautiful bright red; berries of the largest size measuring $2\frac{1}{2}$, and selected specimens 3 inches round.

Plant, strong, vigorous, healthy grower, 5 to 6 feet high, well covered with tough rich foliage, protecting the fruit and canes from the hot rays of the sun. Have been tested five years without any protection, and not injured by heat, cold or any defect whatever, although a heavy sleet one winter, lasting two days, nearly destroyed other Raspberries, both red and black.

It is a profuse grower, and differs from other red Raspberries, branching out like the Wilson Blackberry. As a bearer it is second to none, distributing its fruit nicely through the bush, bearing a large plump berry; comes off easy; does not crumble; has a fine flavor and is an excellent shipper.

The Japanese Persimmon

"I may say in answer to special inquiries concerning the Japanese Persimmon, that I have known it for about eighteen years, and regard it as one of the finest fruits that can be found anywhere in the world. The Rev. Henry Loomis of San Francisco (formerly a Missionary to Japan, but obliged to give up on account of his health,) is engaged in importing these trees direct from Japan. He has quite a number of varieties with which I am not personally acquainted, but from decided testimony of a friend, resident in Japan, I do not hesitate to recommend them all. If this luscious fruit does as well in the United States as in China and Japan, extending from the extreme south to the cold north, in every variety of climate (and I can see no good reason why it should not) no one will regret having given space, money and time to its introduction in this or any other section of our country."

Los Angeles, Cal.

J. C. NEVIN.

The above is an extract from a published communication of the Rev. Dr. Nevin to a religious paper of the North. Mr. N. was a Missionary in China for a number of years. We have long been satisfied that this fruit can be grown with us, and to introduce such a beautiful and luscious addition to our fruits, we have consented to forward all orders to Mr. Loomis that may be sent to us. The price for one year old trees has been reduced to 50 cents and two year old to \$1. Persons desirous to get them can write to us in time, enclosing the money and we will see that the trees arrive in time for early spring planting. Our object is solely to be instrumental in bringing this wonderful fruit to the homes of our subscribers. It is adapted to our climate from New York or farther north, to Florida.

Carnivorous Plants.

BY PETER HENDERSON, JERSEY CITY HEIGHTS,
NEW JERSEY.

From the December number, 1878, of the Gardeners' Monthly, Philadelphia, Pa.

"*Carnivorous plants.*—Mr. Francis Darwin has proved very conclusively the truth of his father, Charles Darwin's position, that the so-called carnivorous plants do make use as food of the plants they catch. A large number of plants were fed on meat, and as many on what they could get from the earth as best they could, and the difference in growth and final product were very much in favor of the meat-fed plants."

The above I cut from a contemporary Journal. Resolving to fairly test the correctness of Mr. Darwin's theory, I last season procured in March, from Keenansville, North Carolina, a large number of *Dionaea muscipula* (Carolina Fly-trap). The plants arrived in fine condition, and I resolved to test fairly, on a large scale, the correctness of Mr. Darwin's conclusions. Selecting from the lot two hundred of the strongest plants, I thoroughly rinsed them again and again in water, so that every particle of soil and all other matter foreign to the plants was removed. I then procured two boxes, three feet by three feet, and three inches deep; these were filled with Moss (Sphagnum) and sand mixed, in about the proportion of four parts Moss to one of sand, forming a soil somewhat similar to that which they had been growing in naturally; this compost had been also subjected to the rinsing process so as to clear it from impurities. One hundred of the Fly-traps were planted in each box, the plants selected being as nearly alike as possible. After planting, the boxes, were each copiously watered with pure water and placed in a cool and partially shaded green-house. One box was covered with a wire netting, as fine as could be procured, so as to exclude insects; the other was left uncovered. By about the middle of May two months after planting, the plants had begun to grow freely, and the "feeding" process was begun with the plants in the uncovered box. In this, I was assisted by Mr. William Tait, one of my neighbors, a gentleman of leisure, and one who is well versed in many branches of natural science; between us, the one hundred uncovered Fly-trap plants, were "fed" almost daily for three months with flies and other insects. In August, three months from the time the feeding began, the operation was stopped, and the most careful examination and comparison failed to show the slightest difference between the one hundred plants that had been "fed," and the one hundred (under the

wire netting) that had not been "fed," both lots had made a splendid growth, and were the admiration of scores of visitors. I never omitted an opportunity to ask professional horticulturists visiting us for their opinion, and the verdict invariably was that both lots were identical, as near as cou'd be. In this case, the "feeding" certainly did not fatten. It may be that our American flies were not so nutritious as the English "meat," though certainly ours was the more natural food of the two, but as corroborating the test of Mr. Darwin, it completely failed.

What we are all after is the truth in this matter, and in case my experiment may have been in some way defective, or that the prejudices of myself and friends against a theory that seems to reverse the whole order of nature, may have in any way influenced our judgment, I will be most happy to furnish, without charge, to any dozen readers of the GARDENER'S MONTHLY, who have the proper facilities to make the test, a sufficient number of plants of *Dionaea muscipula*, to further demonstrate the truth or falsity of Mr. Darwin's conclusions on this subject.

I had rather a ludicrous incident occur in relation to this matter. My friend, Wm. R. Smith, superintendent of the Botanic Gardens, at Washington, who is a thorough believer in the carnivorous plant doctrine, being at my place last winter, after the above experiment had been tried, we got into some controversy on the subject. Now, Mr. Smith is not only one of our best botanists, but his knowledge of general horticulture is perhaps second to none in the United States; moreover, he is a perfect Wilberforce in eloquence and argument, and having driven me pretty well into a corner, he almost squelched me by taking a magnifying glass from his pocket and showing me beyond question a minute species of shell-snails embedded in almost every one of the closed up leaf traps of the *Dionaea*. "There," says he, "nature has placed the food—the animal food—direct into the mouths of these insect-eating plants. Can you longer doubt the correctness of Darwin's theory?" I was staggered but not yet convinced, and resolved to keep a close watch on the shell snails "that nature had placed in the mouths of these insect-eating plants." Very soon they required no magnifying glass to see them; in three weeks they had increased wonderfully in 'breadth and stature'; in three weeks more the biters were bitten, for the snails had eaten the Fly-traps almost completely up! Mr. Smith has, probably somewhat changed his base on the subject of "carnivorous plants," particularly as regards their use of shell-snails as an article of diet.

Garden Work for January.

But little is to be done in the garden this month, beyond trimming small bushes and shrubberry-like currant and gooseberry bushes, &c. If the strawberry, asparagus and herb beds have not been mulched, it can be done now with long stable manure. The month of December was so mild that few things needed protection, and thus may have been neglected. Lose no time now in covering the plants which require more or less protection. Get the beds spaded up and left for the action of frost. Secure a plenty of manure and materials for compost heaps that you may have a fine lot of well rotted manure for use next spring and early summer. Provide bean poles, brush for peas, trellises for vines, cucumbers, tomatoes and other runners. Put all the garden tools in order. Make hot bed frames and get the glass sashes in order. Look well to the cold-frames and flower-pits. Protect young dwarf trees and peach trees, and all such young trees or shrubs against ground mice, rabbits, &c., by tying straw or tarred paper around the bodies from the ground up some two feet. Throw a small mound around to keep the covering in place at the bottom.

Great destruction by rabbits is often done during a single snow. Garden seeds should be looked over and a list of what may be wanted should be carefully made out that they may be procured before it will be time to plant them. Among these do not fail to try the Golden Trophy Tomato and Egyptian sweet corn and Paragon Tomato, originated or improved by Mr. Hyde. We have no interest in these beyond a desire to see them introduced to the public, for our experience the past year in regard to his corn warrants us in saying it is the best corn we ever have eaten. It is prolific with large ears, but later than several other sorts. The small early sweet varieties will do for the first of the season, but Hyde's corn when it matures will be a treat indeed.

Analysis of Wheat.

Boussingault, the celebrated French organic chemist, analyzed the ashes of 15 pounds of wheat, and weighed and found 33 pounds of ashes, which on analysis yielded the following result:

Phosphoric acid,	15.51 lbs.
Sulphuric acid,	0.33 "
Chlorine,	trace.
Lime,	0.33 lbs.
Magnesia,	5.25 "
Potash,	9.73 "
Soda,	trace.
Silica,	0.44 lbs.
Moisture and loss,	0.78 "
Total,	33.00 lbs.

An analysis of good sound bread gave the following result:

Water,	32.4
Gluten and nitrogenous substance,	3.8
Modified Starch, sugar, gum, etc.,	57.5
Mineral salts,	1.1
 Total,	 100.0

The small proportion of mineral constituents in the above is owing to the absence of the bran from the flour of which the bread was made. The nutritive properties of bran are generally underrated by farmers. It is known that gluten is the chief constituent of nourishing bread; also that mineral matter is demanded by our bodies; and bran is found richer in both gluten and mineral constituents than flour, as shown by the analysis.

	Flour.	Bran.
Gluten,	11.45	13.80
Starch,	73.52	53.20
Oil,	0.00	2.50
Woody fiber,	0.50	11.50
Min. matter,	0.84	6.14
Water,	13.50	12.86
 Total,	 100.00	 100.00

• Our Nebraska Nettier.

In the last week of September, Nebraska held its Twelfth Annual State Fair at Lincoln, the Capital City. The exhibition was marvelous in view of the fact that all that Nebraska owns—and her population is 313,000 and her taxable value is \$74,453.339—has been won, beginning with a population at zero, out of the soil in 25 years. In the County exhibits there were thirty kinds of grain, wheat from 16 to 31 bushels to the acre and 60 to 63 pounds to the bushel, and corn from 90 to 106 bushels per acre, and some of the best grain came from Furnace County in the Republican Valley, a county considerably overlapping the 100th meridian, Lancaster county obtained the premium among the counties, and to Franklin county, in the Republican Valley, was awarded the second place. The live stock manifested a State awake to the importance of blood. From every section of the State (showing centres in every direction whence improvement in stock radiates) there were thoroughbreds. In cattle Short-horns, Devons, Herefords, Alderneys; in horses, Hambletonians, Clydesdales and Normans, and in hogs, Berkshires, Essex and Poland Chinas. All over the State the effect of this "blue blood" is seen on the common stock of the country.

The fruits, apples, pears, peaches, plums and grapes were magnificent. There were about 180 varieties of apples on the stands, and perhaps 15

varieties of pears, some from the orchards on the Missouri River and some from orchards on the highest points on the prairie, the first (in the opinion of Dr. J. A. Warder of North Bend, Ohio, who was one of the judges) being of larger size, better color and richer flavor than the same varieties in Eastern States. The farming machinery was an ample exhibit by all the best western makers, and the Fair altogether demonstrated that Nebraska is making rapid strides in the path of development.

WINTER PEACHES.

It sounds strange to Northern ears to hear of peaches ripening the first of November. The editor of the *Gardener's Monthly*, in the November number of that excellent periodical, speaks of specimens of Harris's Winter, Lady Parham, and Baldwin's Late peaches (all free stones) just received from a North Carolina correspondent. The Harris is described as a new peach that last year ripened November 1st. (This year it will last until December.) It is frost-proof, never fails to bear, has large flowers, is very productive, and a good keeper, having sometimes been kept until Christmas. Why can not Southern orchardists make fortunes at growing these late peaches for the Northern markets? It seems to us Southern peach orchards in this way may become as profitable as Florida orange groves. The peach has greatly the advantage in that it comes into bearing much earlier than the orange.

The above from the *Farmers' Review*, reminds us of our early days, when about thirty years ago we exhibited in November at a fair in Prince Georges county, Md., some free-stone peaches taken from the tree the same morning. It was a medium size peach with green skin, but ripe and high flavored though not juicy. These peaches were quite common in old gardens and the trees long-lived. Why they were not propagated and were allowed to become extinct, we cannot say, unless that they in common with many other good things of the olden time, were put aside for what was newer, more fashionable and costly. When a boy, we have plucked them from the tree at Locust Grove when the snow was on the ground.

Blue-Grass Pastures of Kentucky.

How the best farmers manage them. The first crop is grown and fed off by cattle in the early part of the season; after which the pastures are carefully closed against all intruders. The late summer and early fall rains again start the grass, and give it a luxuriant growth. This second growth is allowed to remain on the ground until winter, when it is fed off the second time by the cattle.

Best Manures for Fruit Trees.

I prefer the manure of decayed vegetable matter to the excrement of cattle. In the latter the material that makes and supports the animal has been extracted, and the excrement or dung is not so rich on that account. If the vegetable matter be rotted, and its ammonia fixed by charcoal dust, all the chemical substances are present. This rotted vegetable matter is more beneficial than the dung of cattle, quantity and quantity alike.

Before I regularly manured my trees they only bore every other year. Since then they bear every year. This year, a bad one for fruit, found my manured trees full, and those not manured barren.

The drought this year was fatal to fruit: yet my manured trees had abundant moisture and were fruitful.—R. D. Pell (Orchard on Hudson River, above New York.

Our Old Favorite Hardy Flowers.

We are glad to know that our good, fine, old hardy flowers are coming into fashion again. It was started in France and England and has extended to this country. We mean to say that these flowers are becoming fashionable—if we may so speak—in our fancy gardens. For no one can now go into an old-fashioned farm garden, of which the German and Quaker element in Pennsylvania affords many illustrious examples, without a thrill of delight at the sight of so many of the floral acquaintances of twenty to forty years ago, which have since that time been banished from the gay and pretentious “beds” of highly wealthy people. What, for instance, can afford more real delight than a dense mass of the old-fashioned crimson peony—or, as we used to pronounce it—“piney?” The most brilliant bed of the modern-improved red geraniums will not begin to compare in beauty with a mass of these. And yet the florists tell us if we ask for this good old plant, that they do not keep it any more, but offer you instead a lot of “improved” kinds under the name of Battisii and Whiteyii, and a lot of other “eyes,” as we see in a long list in a catalogue before us, which are neither red, nor white, nor anything decided, but simply “novelties of the latest introduction.” Glad shall we be to see the lot of motley intruders give place to the rich crimson kind of our old gardens and young days.

We scarcely need any more charming flowers than our old bergamot, the sweet William, the fringe pink, ragged robins, perennial phlox, double catchfly, Canterbury bells, and-so-forth, although

they have not Latin names which can be reeled off to the length of a moderate garden line; and it will give all our old-fashioned people who have kept them in their glorious old gardens, through good report and through ill report, unsighed pleasure to know that for some time to come—at least until some new freak of fashion upsets the programme—they are to be just *the thing*. The culture of hardy flowers is so easy, and the satisfaction they give so great, that it is no wonder they are again growing into people’s good graces. The only wonder is that people should have ever run after strange gods, and left these innocent little flowers to the care of the good old farming people in the country districts, who, after all, have as fine a taste for the beautiful as those of far greater conceit.—*Germantown Telegraph*.

FREAKS OF HORTICULTURE.—The *Free Press* of Va. says: Mr. R. C. Johnson exhibited to us a few days ago a ripe apple about the size of a hen’s egg, the third crop this season from a tree upon the premises of Mr. Lee Dillow on the east side of the Shenandoah river.

The *Laurel Gleaner* of Prince Georges county, Md., states that during the last week in November last, “Mr. John Duvall presented us with a stem of ripe strawberries which he had gathered from a vine by the side of the railroad, a short distance from this place.”

D. C. HORTICULTURE SOCIETY had a very interesting meeting in November, which attracted a large crowd of visitors. Mr. John Saul, florist, made a fine display of a choice variety of fine and rare plants and flowers. This Society is in its infancy, yet, gives already evidence of that great success it should meet with, in the cultured Capital of the nation.

Death to the Curculio.

We are informed by one who has tried it, that if a small quantity of salt is sprinkled under the plum trees, just as the fruit is forming, it will kill the curculio, and prevent the young plums from being stung. The same person says wood ashes spread underneath the plum-trees will also drive the curculio away. He applies both of these remedies, and always has nice smooth plums and a bountiful crop. Perhaps both are effectual; the ashes will, at least, promote a vigorous growth, and the salt can do no harm, if used sparingly.—*Rural New Yorker*,

Farm Work for January.

Our fair country-woman and charming poetess, Mrs. Neal, wrote years ago, the following truthful lines, which form such a happy home-like picture that we repeat them at this appropriate season.

"I care not how fiercely 'tis storming,
How heavily dashes the rain;
The wind hath an impotent fury,
Its shrieking and howling are vain.
The curtains, draped closely o'er the casement,
Have muffled the sounds as they come;
I hear but a sorrowful murmur,
That ever is music at home.

"For here I can gather my treasures
Of books, both the new and the old—
Rare poems that oft, in their quaintness
New thoughts and bright fancies unfold.
We fear no "vexatious intruders,"
The rain is our warden to-day;
No visitors surely would venture
The dripping and desolate way."

Such a day and such a scene should be no more welcome to any than to the *provident* farmer. It is an opportunity that rarely comes too often, and when it does come, ought to be improved. If indeed he has been provident and careful, he hears the howling of the tempest with no terror — he compassionates those who may be suffering, but for himself and *his own*, he feels no dread, but rather a lively satisfaction that through his foresight and industry he can congratulate himself that his dwelling is tight and warm, his wood house filled and wood pile large; the stock comfortable in their warm sheds and stables, with bedding enough and mangers full. All things wearing the air of contentment and peace, with, it is to be hoped, his own heart filled with thankfulness to the Giver of all good! So situated, where is there among the diversified classes of mankind to be found one better suited or better prepared than the tiller of the soil, to enjoy that fireside repose so happily pictured by the poetess. Now is the moment for the farmer to cast up his accounts — to write out his future plans, lest they hereafter escape him in the hurry of more busy moments; to examine into his expenses; to arrange for future operations, or to curtail expenses. And when this labor has been gone through, what a delightful time to improve his mind, to hold converse with the experience of those who have lived long before him, or to chat with his contemporaries, as they are respectively summoned from different parts of the

country at his bidding, for he ought to have them all snugly *bound* in his library. He can have "rare poems," learned dissertations, eloquent speeches, elaborate treatises, pleasant "conversation;" in a word, he can be grave or gay; he can read poetry or prose, and talk with men of all ages and on all subjects connected with his business in life, from the classical poet Virgil of old, to the MARYLAND FARMER of this year.

Among the matters which claims attention are the following:

FIREWOOD.

A large supply of firewood should be cut during winter and corded or set up in heaps to dry against next winter. But few persons consider what a saving it is to burn dry instead of green wood. Many believe that if the wood be dry it burns out so fast that it is wasteful, but the fact is the reverse. It is more economical every way to use dry fuel than wet or green. Twice as much can be hauled by the same team at a load—it gives double the heat, or rather half the quantity of dry wood will give as much heat as of green wood, as half the latter is required to dry the other part enough to burn, so as to give out heat. Much trouble and vexation is saved in kindling fires by the use of dry materials. Every homestead should have a wood shed under which to store wood, where it can be cut or sawed and split in rainy days, or at odd times, so as to have a supply always ready.

WINTER PLOWING.

We would urge our hearers that all favorable weather, when the ground is not too wet, be embraced to plow stiff lands. The sandy, porous soils may be left until spring. On the subject of plowing we beg leave to call your attention to the able and practical Essay we are publishing; written three-quarters of a century ago by Mr. Thomas Moore, being as applicable to farming now as it was then, if not more so. Theory and practical experience have united in establishing the correctness of his theory, and his suggestions should be followed in the main by all who desire to improve their worn-out soils. We believe in deep plowing, but not the first year. Since Mr. Moore wrote, the subsoil plow has come into use in American husbandry, and the Scotch farmer, Mechi has found it best to bring up only an inch or two of subsoil each year, giving aeration and loosening by the subsoil plow, the hard pan of subsoil to allow easier percolation of water, and retention of moisture. In a series of plowing at intervals, deeper and deeper each time, until a depth of soil some twelve inches has been fertilized, with green crops

turned in to make humus, and lime in doses of twenty-five bushels yearly for four years, land now poverty poor can be made rich in four years, and made to produce crops in the meantime sufficient to pay the expense of the improved condition and pay for the plowing and culture also during that period, if judgment and industry be exercised. By this we do not mean that the farmer should confine himself to green crops for manure alone, for we would have him make and use all the barn-yard manure and composted material he could secure.

WHEAT FIELDS.

See that the water-furroughs are kept open and small ditches or under-drains are made to let off any water which may stand in low places that were overlooked in seeding the grain last fall. Drain also all such places in those fields intended for oats or other spring and summer crops. Do this work effectually that you may not have to do it again soon, and also in time to let the land be in order to produce a good crop this year. Much good soil is rendered inactive and unproductive by not having the excess of water removed in time.

STOCK OF ALL KINDS.

It is the part of every humane man to be provident of the welfare and comfort of his beasts and treat them humanely. Let the uncomplaining sheep appeal to you for warm, dry yet airy shelters with plenty of leaves or short straw for dry bedding, and you will be more than repaid by the large amount of the richest sort of manure which will be accumulated by spring. Give them straw or pea-vines or clover hay in their racks, and some grain when the weather is stormy or very cold. They should have occasionally roots, such as turnips, &c., sliced up. The ewes after lambing should have a little bran and chopt corn or oats mixed with roots or a run on the grain fields or young grass.

HOGS.

Breeding sows and store pigs ought to have comfortable quarters, plenty of water, good food, occasionally ashes in their mush, charcoal or rotten wood, and let them have access to the droppings of beef or other cattle fed on grain.

HORSES.

These should be well cared for, and their coats kept clean and neat by soap and warm water, combs, brushes and frequent use of wisps of straw. See that they have clean dry beds and the stable

cleaned out daily. Use plaster freely as an absorbent of ammonia and purifier of the air. See that the stable is well lighted and airy, but sufficiently warm and that no animal is exposed to a steady cold draft.

CATTLE.

The work-cattle require good feed and attention at this season. The young cattle should have feed in plenty, well housed and have, at least, two quarts of mill-feed or ground corn and cob meal per day. This class of animals are too often turned out to shift for themselves and neglected so that they lose as much in winter as they gained the year previous, don't grow and become stunted and never afterward pay for their keeping. If well kept and high fed from their birth, they will weigh, at two years old, more than they would at four, if badly fed, and their actual value as breeders, cows, work-cattle or for the butcher will be doubled.

MANURE.

Now is the time to swell your manure banks at little cost of time or labor. Haul leaves, straw, muck, turf and weeds from fence corners, tufts and ditch banks, &c., into the barn yard and hog pens and spread it. The stock will work it into manure and among the corn stalks and it will be well composted by spring. Remember that stable and barn yard manure is the great *sine qua non*, contains all the essential elements of fertility and the best plant food, and saves great outlay in expensive manipulated fertilizers, which are often "far-fetched and dear bought." Farmers should borrow from no bank except from their own manure bank. Sustain that, draw heavily from it, and it will sustain you, but you must not exhaust its resources faster than you make deposits, or it like other money banks will "burst." Whenever you draw a pile, carry to it bullion enough to be coined against you want another accommodation. Follow this rule and that bank will be a well-spring of prosperity, without such a one your farm will likely to become a mill-stone about your neck; instead of a necklace of beauty and great value, and an ornament of comfort, joyful independence and commendable pride.

ICE.

The weather about Christmas was very favorable for getting ice, and it is presumed that every one embraced the opportunity to fill the ice-house. Those who, from any cause neglected to do so, ought to be on the alert to embrace the earliest opportunity to secure that luxury, and indeed, may be said to be an absolute necessity in our clime.

For the Maryland Farmer.

Farmers Meetings.

There is probably no occupation in which those who labor have less meetings than farmers. While those of other industries and even the professions have their meetings for inquiry, consultation and advice, farmers show a very strong inclination to "go it alone"; and yet, if there was ever a business that required all the knowledge which it was capable for man to possess, that business is farming, for the reason that results are so much affected by every possible circumstance that the mind can imagine. In fact, agencies which operate to determine, or change results, are so numberless, that a long life would be sufficient to determine even a portion of them. But where many individuals are determining truths and facts in the same direction, there will be a vast accumulation of such facts; but many of them being entirely dissimilar, but held by different individuals are not available to the great mass. This condition of things is not in keeping with the idea of improved agriculture; if any valuable fact become known to any individual farmer, it should become the property of all; but for the want of opportunity, in too many cases is lost or forgotten. This condition of things is brought about very largely by the partial isolation of farmers, and a want of healthy social intercourse. A large proportion of farmers are possessed of such an amount of native talent as would be sufficient to make them brilliant lights in society if the rough exterior was only removed by the abrasion of social life. And this farmers may enjoy as well as any other class to a reasonable extent. But to become more polished is not the main object of association, the principal object with farmers should be mutual improvement, and the accumulation of all knowledge possible to be gained regarding their occupation.

There are a variety of different organizations which are calculated to improve all those who become connected therewith, such as farmers clubs, granges, agricultural societies, boards of agriculture, &c. The latter is more exclusive in this, that it is limited in its membership, and still this organization usually holds its general meeting in which all can participate or remain silent listeners. There is one important fact in regard to the value of the meetings of the various organizations, and that is, that it increases as it becomes more exclusive in number of membership; or in other words, that meetings of a State board of agriculture are more highly and intensely instructive than the simpler meetings of a farmers club or the grange meeting of patrons of husbandry. And

yet the object is supposed to be the same in all cases, viz : a more extended diffusion of agricultural information. No farmer, having obtained by his farm practice, any important fact of value, has any just right to conceal it in his own bosom, and yet from the very condition of things he may be prevented from giving public expression to what he otherwise would be willing to do.

Again there are many facts that have come under some individuals, observation but have partially been forgotten, and yet a word upon some subject closely connected, expressed in the hearing of such person would recall it at once to mind; so if a farmers meeting affords such opportunity, an otherwise lost fact will be saved and made use of.

This sort of partially hum-drum life of the farmer requires meetings that he may have relaxation from toil, and become somewhat educated to the conventionalities of so-called society. It is also required that he attend these meetings that he may impart and receive knowledge upon all branches of industry in order that he may more successfully carry on his avocation, and in doing this he will educate himself in the art of public speaking and perfect himself in those graces which have such a commanding influence upon the populace. The day has passed in which the farmer because of his occupation is of necessity beneath any other class of citizens if he will only improve such opportunities as are within his power.

WILLIAM H. YEOMANS.

Columbia, Conn.

Maine Looking out for her Bread.

By a note from Col. J. C. Howard, Winthrop, Maine, enclosing the proceedings of the West Winthrop Farmers' Club on the 14th November, we learn that the growing of corn in Maine for home supply is attracting attention among the farmers, and they seem to be determined, if possible, no longer to be dependent upon the West for their corn. Some intelligent farmers think and figure it up to show that it is cheaper for Maine to buy corn and wheat than to raise it. Col. H. pertinently remarks, "since the South has begun to manufacture her own goods, we must try and raise our own bread or starve." We agree with him; true economy consists in every community growing and manufacturing every article needful to human sustenance and accumulation of wealth, within its own borders, and thus be free and independent of all outsiders. Let every farmer live within himself and he will be independent and his State will be flourishing.

THE
MARYLAND FARMER,
A STANDARD MAGAZINE.

DEVOTED TO

Agriculture, Horticulture & Rural Economy.
EZRA WHITMAN.
Editor.

COL. W. W. W. BOWIE, Associate Editor.

141 West Pratt Street
Baltimore.

BALTIMORE, JANUARY 1, 1879.

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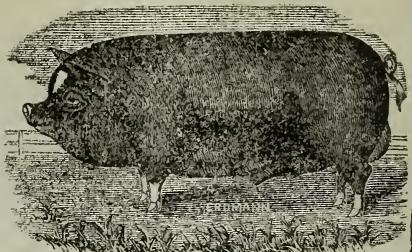
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Any person who sends us One Hundred Subscribers at \$1 00 each, will receive 1 YOUNG AMERICA CORN AND COB MILL, worth \$40 00

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1st Prize Berkshire Boar,
O T H E L L O ' S S A M B O.

SPECIAL PREMIUM !

Messrs. W. ATLEE BURRKE & Co., of Philadelphia, have generously donated for premium to getters up of club subscriptions to MARYLAND FARMER for 1879, one choice Berkshire Boar Pig, three months old, and closely related to the fine boar above illustrated from life. We offer this splendid pig to the party who before the 10th of January, 1879, will send us the largest number, over 15 subscribers, with one dollar cash for each name. It will be boxed, with feed and delivered on board boat or railroad, directed to the fortunate winner of the prize.

Our friends can do us a good turn by mentioning the MARYLAND FARMER to their neighbors, and suggesting to them to subscribe for it.

We call attention to our Reduction in Price of Subscription.

YOUNG MEN !

It is an easy way to make money by getting subscribers for THE MARYLAND FARMER. Send 15 cents for Specimen Copies, and ascertain what Liberal Commissions we will allow.

ADVERTISERS.—While we are gratified to perceive from the large number of advertisements in the MARYLAND FARMER—increased monthly—that our journal is appreciated as a profitable medium, yet we are surprised that Farmers who have stock of all kinds for sale do not advertise more freely; merchants properly estimate the value of advertisements, while farmers lose hundreds of dollars by not doing as the merchants do. We have daily enquiries where poultry, eggs, sheep, cattle, horses, &c. are to be had, and at what price. We can not answer in all cases. It is true we have an agency ourselves for the purchase of such articles, but we would have our patrons deal personally with the owners, who advertise.

The *American Farmer*, in its December number, has a lame defense of the charge of plagiarism made in the *MARYLAND FARMER* against the wonderful First Premium Essay on the "Renovation of Worn-out Soils. We repeat again, that, had the Committee known of the fact which P. P. published in the Marlboro' *Gazette*, they would not in all probability have given Mr. Stabler the First premium. The writer of the article on this subject in the *MARYLAND FARMER*, from motives of delicacy, did not assert himself to be P. P.; he was aware that the fact was known to *Mr. Sands*. The insinuation of Mr. S. that he was influenced to write under the still existing disappointment of a defeated competitor is untrue. This "animus" was perhaps the moving power—not the obtaining the premium by uttering the sentiments of a dead man—that made the editor of the *MARYLAND FARMER* make his "ill-mannered allusions" There is not a man who knows both *us* and the *old man* of the *American Farmer*, but will laugh at the idea of the associate editor of the *MARYLAND FARMER* being lectured on good manners by the courtly (?) senior of the *American Farmer*.

The charge of plagiarism by the author of "the veracious chronicle whose history (save the mark !)" is a mean and unjustifiable insinuation. The History is *true*, and we dare any honest man to contradict it, unless it be first shown that the records kept by the Secretary of the Society were falsified. Every line from the pen of the publisher of the *American Farmer* has been duly accredited. The proceedings of the Society have been given from the *published* records of the Society, found in the *American Farmer* and the papers of the day. What was published by order of the Society by its Secretary, became public property, and a source from which future historians might draw facts. It is from documents, letters, traditions well substantiated, that all histories are written.

Every intelligent man will see this in its proper light. It is not using the language of others to gain a silver pitcher!

The writer of the History of the Agricultural Society of Maryland, is perfectly content to be judged by the readers of his "History," as to whether he plagiarises or not. He is too well known as a writer to fear a verdict against him.

The growing prosperity of the *MARYLAND FARMER* seems to bring out the quarrelsome characteristic of the senior editor of the *American Farmer*. This old publisher of others thoughts and chronic adulator of any and everybody who helps to fill his paper of "limited circulation and influence," thought proper in his December number to make low and mean insinuations as to the

"history" and character of the *MARYLAND FARMER*. These insinuations and gross inuendoes are contemptible and unworthy any man who values his character for truth.

Those who are familiar with the varied history of the *American Farmer*, and who can recall to mind the bitter feeling of its present editor against that Journal when he was not its proprietor, will not be surprised at his present ill-temper displayed toward us.

We again trust to the good nature of our readers to be excused for defending ourselves against the querulous garrulity of old age.

We shall always continue to brand the bold plagiarist and expose humbugs, whenever we discover such would be deceivers of a confiding public. It is due to our readers and due to the dignity and high character of the journal we publish, as well as to our individual reputation as gentlemen and respectable journalists, fearlessly to pursue an honest and honorable course.

JOURNALISTIC.

THE CENTREVILLE OBSERVER (Md.) has reduced its subscription price to 75 cents a year, making it, perhaps, one of the cheapest papers in the country. It is a large eight-column weekly newspaper, excellent in its appointments, and as a local and general newspaper is the peer of most of the best weeklies in the State. Everybody can now afford to have a paper in the house, when a paper like the *Observer* can be had for the paltry sum of 75 cents a year.

THE FANCIERS' WEEKLY is a neatly printed little weekly advertising sheet published in Baltimore by H. F. Whitman, Editor, with F. L. Hooper, Associate Editor,—at the low price of 50 cents per year. It supplies a great want with Poultry, Pigeon, and Stock Breeders. At a glance of its pages any one can see where he can exchange, sell or buy Stock, Dogs, Poultry, Pigeons, &c., for any articles he may wish to sell or barter in exchange. It has proved already a wonderful success, we are glad to know.

THE POULTRY MONTHLY, a new magazine, published by the Ferris Publishing Company, Albany, N. Y. The January number is on our table, and is elegantly printed, quarto form, price \$1 per year. This first number is well illustrated and gives evidence of such enterprise as will no doubt secure it a liberal patronage. Their salutatory is very modest, yet full of excellent promises.

THE MONTHLY FLORAL AND FRUIT MAGAZINE, Col. D. S. Curtis, Editor and Proprietor, Washington, D. C., \$1 per year. This neatly gotten up monthly came promptly to hand for December; and besides other good things that number contains, we find extracts from a well written and interesting Essay by Col. Curtiss, read before the D. C. Horticultural Society of Washington, on "Harmonies and Unity in Nature."

SUNDAY AFTERNOON, Springfield, Mass., is a capital monthly for Sunday afternoon reading, has reduced its price from \$3 to \$2.10 to all who subscribe before January, 1879.

Every one of our readers should carefully peruse the advertisement of the Royal Manufacturing Co., of New York, which appears for the first time in our issue of this date. The goods will speak for themselves, while the responsibility of the firm is vouch'd in the editorial indorsements.

The well-known and popular seedsmen, Messrs. D. M. Ferry & Co., of Detroit, Mich., are again before our readers with their annual announcement. Their catalogue, which is mailed free, is offered to all of our readers. We would advise them to avail themselves of this offer.

PUBLICATIONS RECEIVED.

REPORT ON THE ASSESSMENT AND COLLECTION OR DUTIES ON IMPORTED SUGARS. By David A. Wells, New York, 1878. This is an able essay on the results of an economic and financial inquiry into the relation of the sugar industry of the United States in its several departments—importation, refining and distribution of product—to the federal tariff. A work peculiarly acceptable at this time when the propriety of beet-sugar making is growing in interest with farmers and the financial interests in this country.

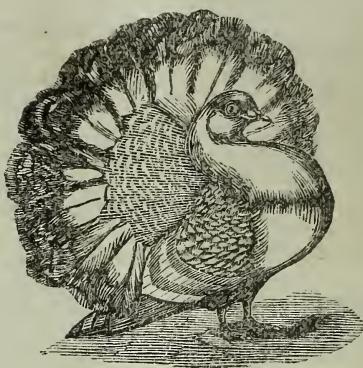
From Messrs Smith & Powell, Lakeside Stock Farm, Syracuse, N. Y., their handsome catalogues with illustrations of their Hamiltonian and Clydesdale horses and their Holstein cattle.

From Charles S. Taylor, Burlington, New Jersey, catalogue of the "Green Hill Herd of Pure Short-Horn and Jersey cattle," and a card about their imported English Draught horse "Samson."

From Benson, Maule & Co., their catalogue of Thorough-bred Stock, Phila. Pa.

From Joseph Harris of "Moreton Farm," a price list and description of his pure bred Cotswold Sheep and Essex Pigs.

PIGEON COLUMN.



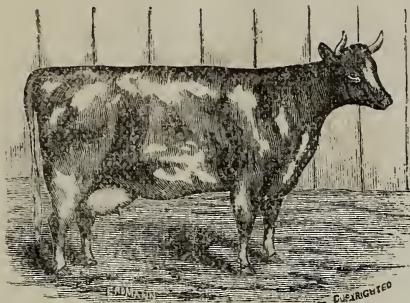
For the Maryland Farmer.

THE FANTAIL PIGEON.

BY OUR EDITOR OF THE PIGEON COLUMN.

There are a number of pigeons which are strikingly distinguished by remarkable peculiarities in the form of the plumage. Of these, the Fantails stand eminently first in the eyes of the amateur. They are so named in consequence of having their tails furnished with so great a number of additional feathers as to give the appearance of an outspread fan. The number of feathers in the tail of an ordinary pigeon is fourteen, but in this breed it is greatly increased; in some specimens even to three times that number, and thirty feathers are not uncommon in good birds. The carriage of the tail is also greatly changed: instead of being borne behind like that of an ordinary, it is held aloft, like the expanded tail of a peacock. This pigeon, especially when lustful, has a frequent tremulous motion or shaking of the neck, which, joined to the breadth of the tail, gives it the name of shakey or Fantail. This beautiful bird is possessed of a long taper, handsome neck, which it erects in a serpentine form, rather leaning toward its back, somewhat like a swan; it has a very short beak and is exceedingly full breasted. The general color of the Fantail is white, but they are also black, blue, red, yellow, dun and silver, also pied birds, which are marked on the shoulders like the varieties of Wing-Turbits. Fantails are good hardy birds, and as they can be bought at all prices, very well suit the young fancier; moreover, they soon become very tame, and may be reared almost everywhere.

Live Stock Register.



For the Maryland Farmer.

AYRSHIRE CATTLE.

Farmers seldom now ask the foolish question which is the best breed of cattle, but from the general introduction of thorough-breds and high grades are asking which is the best breed for their own particular use. For beef we have several competitive breeds, as also for butter. But for milk no breed can be presented as a rival for the Ayrshires. A farmer should first decide which will pay him best to produce beef, butter or milk—and if near a market the decision will frequently be in favor of the latter. When such is the case, no mistake can be made in purchasing an Ayrshire bull to raise high grades, and a few heifers as the nucleus of a herd of thorough-breds, which far surpass any grades. Thos Tasker, a well known gentleman of this city, has made some interesting experiments in carefully neighting the milk from certain important cows of his Roadside Herd, and in many cases the total of a year's milking from each cow equaled eight and nine times the *actual weight* of the cow in good condition. This would seem an extravagant yield to farmers used only to the common native cows, and should surely demonstrate the great superiority of the Ayrshire breed. We know of an Ayrshire, two years old, that for two weeks previous to calving, gave, on grass, one hundred and five quarts of milk each week. An average native cow, in the flush of season, will yield twenty to twenty four quarts per day, while twenty six and twenty eight quarts are scarcely unusual although very large yields,

One cow that we have certain knowledge of, gave as high as thirty quarts per day. The heifer alluded to above was milked for six weeks before she calved. Ayrshire milk predominates in casein and is consequently the very best for the manufacture of cheese—also for the same reason is the best for veal fattening. In Great Britain Ayrshire veal commands a higher market price than any other,

In color, Ayrshires are generally red and white or mahogany and white, beautifully diversified. They should have a white star on the face; a solid white face is very unpopular. They are compactly built, neat boned, straight back, loins large, ribs full, well arched, with large capacious chest; large brisket, heavy hind quarters, wedge-like appearance; large capacious udder, reaching well forward and extending far behind with teats of medium size and squarely set on; the milk veins are large and well developed; escutcheon well defined; tail whip-like and bushy at the end. In disposition are kind and gentle and are easily kept. They make a good quality of butter, although not so rich and high colored as the Jersey, therefore their great value is for a milk dairy.

Phila. Dec. 21st 1878.

W. ATLEE BURPEE.

For the Maryland Farmer.

LETTER FROM EUROPE.

Fat Cattle and Poultry Show at Birmingham.

LONDON, December 11th, 1878.

MESSRS. EDITORS:—In compliance with my promise, I propose to give to your readers the result of my observations at Birmingham, last week. I reached that city about 1 o'clock P. M., on 21 inst, and found my friend, Mr. Duckham, awaiting at station, and immediately made for "Bingley Hall" an immense building, covered with glass. The cattle first commanded our attention, and as catalogues were to be had at cost of sixpence, with one in hand we went systematically to work. The judges having acted on the previous Saturday, we were furnished in the Catalogue with the list of awards, weights of Cattle, and much desirable information, all of which could be incorporated into our system, with advantage to all concerned. The Herefords were first in order, numbering fifteen, divided into five classes, viz.—1st, Oxen exceeding 4 years; 2d, Steers between 3 and 4 years; 3d, Steers under 3 years; 4th, Cows over 4 years that must have had one live calf; 5th, Heifers not exceeding 4 years. These classifications govern all breeds of Cattle exhibited. They were, as a class, very good; the two in Class 1 were so fat as to have overtaxed their legs, which were tightly bandaged. The Shorthorns numbered forty-one, and although there were many rough specimens, there were some simply magnificent; the white Heifer, 3 years, 5 months and 8 days old, weighing 1954 lbs., bred and exhibited by Mr. Edwin Hubbard, was awarded special prize of £100 as best Short Horn, after

taking £20 prize in her class. Devons were a small lot, although all good. Longhorns, a very old breed, are easily designated by their horns. There were only six on exhibition, were very finely fleshed, and while my curiosity was gratified, could see nothing in them to compare with the fine animals surrounding. The Scotch were represented by seven polled Oxen, Steers, Cows, and one Heifer. They were very good as a class. Another lot of Scotch were six West Highland and Scotch Horned. The cross-breeds (or, as we call them, grades) were the honored class, as the Challenge Cup of 100 guineas, Silver Cup valued at 100 guineas, and Special Prize of £50 was awarded to a cross of Shorthorn Bull upon Scotch Polled Cow, producing the characteristic black, with very short horns, and all the peculiar fine qualities of the Polled breed, his weight was 2816 lbs., age 4 years and 10 months.

The Sheep and Hogs were good, but as these departments are so much better at the Smithfield Show, will desist from a detailed report. The whole number of entrees of Cattle, Sheep and Hogs were 289.

There was also an exhibition of Grain and Roots, which can truthfully be very highly commended.

I might say the specialty of the Birmingham Show is that of Domestic Poultry and Pigeons. There was 274 entries of the former, and 715 of the latter. First Prizes ranged from a Silver Cup worth 5 shillings to £2 in money. While too much of your valuable space would be occupied in giving detailed accounts of the various birds, it can be said they were a grand collection. Conspicuously the games were sought for, Black-Breasted Red's predominated. They were wonderfully fine, and in large numbers. Among the Browns and other Red Games, excepting Black Breasted, were some very large Chickens. They are growing in favor, on account of their increased size. Duckwing were very good. The Piles were shown in perfection, and deservedly much admired. The Bantams were divided into nine classes, and attracted much attention. It is surprising to what an extent they are *fancied*, and for what ridiculously large prices they are sold. The Pigeons were divided into sixty five classes, and offered to the fancier an opportunity of seeing perhaps the best show of the kind ever produced.

I intended to have included in this, my observations at the Smithfield Fat Cattle Show, now going on at Agricultural Hall, Islington, but will defer until next week.

Very truly yours,

JOHN MERRYMAN.

ATTENTION! SUBSCRIBERS!

SUBSCRIPTION REDUCED TO \$1.00 A YEAR, IF PAID IN ADVANCE.

Our subscribers will find in this number, our *Prospectus for 1879*, and please notice the important change in the price, being a reduction to \$1.00, if paid in advance. While we thus reduce the price *one-third*, we hope not to suffer loss by it, believing that our subscription list will be thereby more than doubled, satisfied that our friends will sustain our efforts in lowering prices to suit the times, by each one exerting himself to get one or more names to swell our roll of subscribers. Thus our subscribers reap the advantage, while we may not lose.

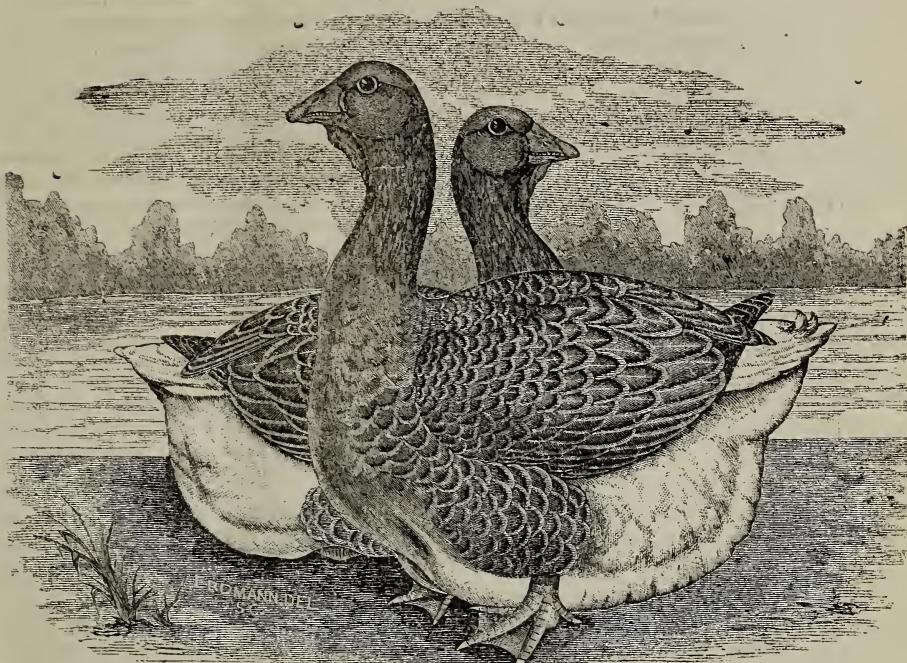
It was 15 years ago this month,—in those dark days of 1863, the *MARYLAND FARMER* was started by myself, with Col. S. S. Mills as associate. At that time it was considered a hazardous attempt to begin the publication of an agricultural paper in this city. The *American Farmer* and the *Rural Register*, both good papers, having failed to sustain themselves and had become *extinct*, and the farmers of Maryland were left without an organ.

My life having been spent in agricultural pursuits, and in efforts to perfect the adaptation of agricultural machinery to the wants of the farmer, I felt that my interest and that of the farmer and planter were closely connected, and hence farmer and mechanic should have some journal in Maryland suited to their wants. The *MARYLAND FARMER* was thereby started, and has continued to this date, under shade and sunshine, with no rival for 10 years in its field of usefulness—battling for the rights of farmers at great cost of labor and money, and regardless of consequences; so it received the approval of those who patronize it.

In returning thanks to our host of well-tried and valued friends for their past support, we feel safe in saying to those who may become new subscribers, that if they refer to our old ones they will be assured that we have maintained the promise given in our first appeal to our readers in January, 1864.—“Our desire is to make the ‘Farmer and Mechanic,’ a welcome guest at the fireside, and a suggestive companion in the field and workshop.” We proudly say we have fulfilled, and more so, our promise thus given fifteen years ago.

E. WHITMAN

Editor and Proprietor



For the Maryland Farmer.

GEESE—THEIR VARIETIES.

THE TOULOUSE heads the list as the largest of all, and are carefully depicted in the accompanying engraving which was drawn from life of a pair that won several first prizes. The plumage on the colored parts is gray, lighter in shading on the neck and breast than on the wings, the back part of the body is pure white in plumage. They have reached the enormous weight of 68 lbs. per pair. They are very hardy; are not noisy, and are easily raised. Their heavy bodies admit of their being confined by a low fence. They produce a heavy yield of feathers.

THE BREMEN GEESE are not quite so large as the preceding, but are large enough, readily attaining the weight of 20 and 25 lbs. each. They are raised and fed largely in Saxony, where they are highly esteemed for the delicacy of their meat and their great abundance of the most valuable feathers—being the more desirable on account of their pure white plumage. They are well adapted to this climate.

HONG KONG OR CHINA GEESE. Of these, there two varieties; one, pale white in plumage, the other, an even shade of gray, like the Toulouse. They are a small breed, but excel in egg production. While their eggs are not so large as the two preceding breeds, yet they lay twice as many

The peculiar "not" at base of bill makes them at once odd and ornamental.

Either of the above will be profitable, yielding, as they do, two crops a year, one of marketable goslings and another of feathers.

W. ATLEE BURPEE.

Phila., Pa.

Poultry Shows to Occur.

Connecticut State Poultry Ass'n Hartford,
I. Altman, Sec'y. Dec. 31, '78, to Jan. 7, 1879

Mu'ual Poultry and Pet Stock Ass'n, Binghamton,
N. Y., R. K. Benedict, Sec'y. Jan. 7-9, 1879

Central Penn. Poultry Ass'n, Pottsville, Penn.
W. A. Shoemaker, Sec'y. Jany. 7-10, 1879

Urbana (Ill.) Poultry Association
Jan. 7-10, 1879.

Orleans County (N. Y.) Poultry Ass'n, Albion.
Wm. F. Ross, Sec'y. Jan. 7-11, 1879.

Western Penn. Poultry Society, Pittsburg.
C. B. Elben, Sec'y. Jan. 8-17, 1879.

Indiana Poultry Association, Indianapolis.
Wm. H. Fry, Sec'y. Jan. 8-15, 1879.

Hudson Valley Poul. and Pet Stock Ass'n, Troy,
N. Y. Bobt Lewis, Sec'y. Jan. 9-13, 1879.

Chenango Valley Poultry Ass'n, Oxford, N. Y.
W. H. Van Wagener, Sec'y. Jan. 14-16, 1879

Central Iowa Poultry Association, Grinnell.
Willis Davis, Sec'y. Jan. 14-16, 1879.

History of the Maryland Agricultural and Mechanical Society.

CHAPTER VII,

At this meeting of 1851 there was a splendid exhibition of Agricultural Machinery. Messrs. Sinclair & Co., had built a beautiful cottage for their exhibition of a great lot of machinery, utensils, &c., in and about this unique manufacturers' home. Mr. Ezra Whitman had a spacious building from which banners and streamers floated above a lofty tower that commanded a fine view, and added greatly to the attractiveness of the grounds. These gentlemen each day spread elegant luncheons for the refreshment of their crowd of visitors and friends, both ladies and gentlemen. Col. Atlee, Mr. Drury, Mr. Mott, Page & Co., Didier & Bro., and others in this line, made great demonstrations also. Messrs. Murray & Hazlehurst had a Portable Steam Engine which carried off the 1st premium, while Mr. McKinstry's Steam Engine which took the premium last year, was on the ground and said to have been improved. The whistling of steam and the clatter of the moving powers made times lively in the neighborhood of these ingenious and highly praise-worthy mechanical inventors and exhibitors. Messrs. E. Whitman & Co., received the first premium of \$30, for the best and most numerous collection of Agricultural Implements, with discription thereof.

The evening meetings were largely attended, and each evening seemed to grow in interest, and add to the usefulness of the Society by the instructive discussions which took place.

For the report of these evening sessions, we acknowledge our indebtedness to the Secretary of the Society Mr. Samuel Sands, published in the seventh volume, pages 167-171 of the American Farmer 1851.

On Monday, Oct. 20th, 1851, President Calvert took the chair and congratulated the Society upon the favorable auspices under which it met. He stated to the meeting that the citizens of Baltimore had raised a fund and the purchase of a lot adjacent to the city, for having placed the same in the hands of a committee consisting of Chauncey Brook, Ch'm, John Hopkins, Zenos Barnum, Alex. Murdoch and Wm. Devries, these gentemen had promptly entered on the duty assigned them, and after having carefully examined various sites offered to their consideration,

had finally concluded the purchase of a most eligibly situated lot, at the extremity of North Charles street, for which the sum of \$15,000 had been paid. The next step necessary, and for which but a short time was given, was to fit it up in a manner suitable for the purposes of the Society, for which the further sum of \$5,000 had been appropriated by the share-holders - the whole premises and improvements to be placed at the disposal of the Society, for the term of ten years, after which time it was to revert to the Trustees for the benefit of the purchasers, if they shall so require at that time. The President then adverted to the indefatigable efforts of Chauncey Brooks, Esq., who was assisted by the counsels of Geo. W. Dobbin, Esq., our Corresponding Secretary, who at a former meeting of the Society, had been delegated to represent its interests and views with the share-holders and Trustees of the lot. Mr. Brooks, with a liberality and devotion which has laid us under a very heavy debt of gratitude, undertook the task of expending the funds devoted to that purpose, in the erection of the necessary buildings, fixtures and enclosures, for the use of the Society, which, when the members shall have visited the grounds on the morrow, will be found to have been accomplished in a most substantial and convenient manner, and on scale of magnitude which has never been surpassed in this country. The President stated to the Society, that through the labors of Mr. Brooks and Mr. Dobbin, an almost herculean task had been performed—that through the daily superintendance of Mr. Brooks, who had devoted a large portion of his valuable time to the fitting up of the premises for our use, the money appropriated for the purpose by the liberality of our citizens, had been most judiciously and economically expended, and that he had been ably assisted by Mr. Dobbin, whose personal attention had also for weeks past been devoted to the same important object. Routine business then followed, and the Society adjourned to 7 o'clock, on the next evening, when the subject of "Sheep Husbandry," and the policy of further Legislation to protect sheep from dogs, was assigned as the subject for discussion. On this evening, Gen'l J. G. Chapman, V. P. for Chas. Co., was in the chair. Dr. Wharton, opened, the discussion by saying, the subject was of paramount importance. Wool was one of the great staples of our country and in connection with the value with us, of sheep for the shambles, thus having a market for both the fleece and carcass, its more general introduction would add to our agricultural wealth and resources; but we must have further protection from dogs. There is an insecurity and risk from this cause. Politicians and Legislators, he suggested, were

timid; the people should give a strong expression for their desire for further legislation, and he thought it might be had.

Mr. Carey doubted the necessity for further legislation—the laws at present giving a remedy against the trespassers by dogs, when ascertained, and to make the County liable for the destruction of sheep by dogs would be to make a large class who owned no sheep, protect a few who did own them.

Dr. Wharton rejoined, that the laws of a community should certainly be such as to protect every citizen in the pursuit of a lawful, legitimate occupation and interest. If dogs are a nuisance tax them; if they can not be guarded against destroying the flock of the sheep master while he sleeps, the laws should indemnify, as they do in the case of property destroyed by a mob.

The former speaker thought the case of a mob was not analogous.

Mr. Horsey stated what he understood to be the present state of legislation on the subject. Other gentlemen participated, and a contrariety of opinions seemed to exist as to the present acts of legislation on the subject—and finally it was moved, and a committee was appointed, of which Mr. Carey was appointed chairman, to report to the next quarterly meeting of the Society, the laws at present existing.

Mr. Holcomb, of Delaware, suggested whether instead of discussion it would not be better to conduct the proceedings in the shape of questions and answers—we wanted facts—we wanted the practical experience of gentlemen on a variety of interesting subjects. We were assembled from different and remote points, and had but two or three short evenings to spend together; let us examine one another. Practical men would consent to answer questions, giving in a few minutes their large experience, who will not participate in a discussion. This course will be in analogy to English Parliamentary Committees on Agriculture, where so much thorough valuable information is obtained.

Gen. Tilghman concurred—he thought however, the position of the Society' Rooms were unfavorable from the great noise on the street, that prevented much that was said from being heard, and at his suggestion a resolution was passed calling attention of the Executive Committee to the subject.

Dr. Wharton agreed that the more practical the better—the larger the number that would participate, the greater no doubt the value and interest of these evening meetings.

Mr. J. C. Clark of Delaware, was then called up.

By the Chair.—Please state your experience ineeding sheep.

Mr. Clark.—I usually feed from 500 to 2000 a year. I lay them in at different times, those turned into pasture in April, are ready to go

off about August; I then lay in again, and these go off late in Autumn.

By the Chair.—What kind do you give preference to?

Answer.—I usually buy Western Sheep, these are more plenty, they are often a cross on the Merino. I like a cross of the Leicester or Oxfordshire.

By the Chair.—How many do you feed to the acre?

Answer.—On a good grass sod eight may be fed. Eight Sheep and one Bullock is about the same—an acre of good sod will fatten either in ordinary seasons.

By Mr. Hall, of Montgomery Co.—How old is the sod—how long laid down?

Answer. I have some pastures that have not been broke for 20 or 25 years; but they will feed 8 sheep, well set with green grass, or green grass and the vernal grass, when 4 or 5 years laid down.

By Gen. Tilghman.—How much corn and wheat will land that will feed 8 sheep produce.

Answer. Fifty to sixty bushels of corn, and twenty to forty of wheat.

By the Chair.—How do you like clover pastures?

Answer.—They will do, and I use them, turning my sheep on when about coming into blossom, but they are not as good as a sod.

By the Chair.—Do you sow the green grass, and what other of the cultivated grasses do you prefer?

Answer.—We don't sow the green grass; it will come in after three or four years. The English Rye Grass, (generally called the Italian) is a favorite of mine, making a good early and late pasture—next to this, Timothy. I don't like the Orchard grass, it is dry and tough; half bushel of Rye grass should be sown to the acre; it is not as good for hay, being too succulent.

By the Chair.—Do you fat sheep in winter, and how do you keep them and what do you feed them on?

Answer.—I usually feed several hundred, keeping them all the time shut up and under cover; feed on corn and hay; have troughs for water; never let them out; feed shelled corn, never meal.

By Mr. Earl, of Q. A. Co.—When do you have your lambs dropped, and what proportion can you raise?

Answer.—Early in April; I count on raising a lamb for each ewe.

By M. C. W. Wright, of Sussex Co.—What diseases trouble your flock worse?

Answer.—The scab; next to this, the foot ail.

By the Chair.—What is the first symptom of the scab and what your remedy?

Answer.—You will see the sheep rubbing itself and turning to bite the sore spot, and will soon get the wool off. The first thing I do is to remove the sheep from the flock, then

physic with a preparation containing Mercury.

By the Chair.—Do you find sheep husbandry profitable, and what protection do you have from dogs?

Answer.—It is the most profitable, sure and safe part of my farming operations. I keep a dairy of 50 cows, from which I make butter for the Baltimore market. I grow some fruit and raise grass, but think much of my sheep husbandry. The laws not sufficiently protecting us—(the farmers never make laws for themselves I believe, but always for other interests), we protect ourselves as well as we can; when we feel there is danger, we saturate meat with strychnine, and throwing it in the way of the dogs, in the route they would be most likely to take to our sheep folds. This is all we can do in the absence of further legislation.

[TO BE CONTINUED.]

Address before the Solebury Farmer's Club,
OF BUCKS COUNTY PA.,

BY WILLIAM PARRY OF CINNAMINSON, N. J.

Gentlemen of the Solebury Farmers' Club:

At the invitation of your secretary I have the pleasure of meeting with you here to-day.

Fruit growing and farming should go hand in hand, and both be carried on profitably together on the same plantation. Our expenses are certain and constant all the year, and, in order to meet them, we should endeavor so to arrange our crops, that our income from their proceeds shall also be regular.

The farmer who mainly depends on two or three staple crops, such as grain and grass, is more likely to suffer from Western competition than he who has a dozen or more, of fruits and vegetables, ripening in succession throughout the summer and fall, yielding their rich products all the season. Farmers should be economical, and the first step in that direction is to discard all unnecessary expenses. One dollar saved is better than one earned. The cost of fencing our land is a heavy tax upon our energy, and should be greatly reduced. We are too apt to follow in the tracks of our predecessors, without considering the changes that have taken place since their time.

When our country was new, in a state of nature, yielding an abundance of rich pasture, but little land being tilled, it was necessary to fence around the cultivated crops to protect them from herds of cattle roaming at large in search of their daily food. But mark the change in our time; the land has all been surveyed and purchased by individuals, the State reserving the right of public travel, but not the right of public pasture. The present system of fencing against road cattle is an unnecessary

expense, and the space occupied by fences and headlands, a waste of good soil, which should yield large crops. The custom which still prevails among the farmers in some sections, of permitting cattle to roam at large upon the highways, is wrong in principle, dangerous to the property and lives of persons traveling on railroads, and unjust for those who do not suffer their stock to run loose, to be required to fence against cattle. Every person should be required to keep his stock upon his own premises. All persons who own cattle should keep them inclosed, rather than to require the grower of fruits, vegetables and other cultivated crops to keep up fences.

The practical operation of the cattle laws, preventing animals from running at large, in some parts of our country, has been salutary and favorable, giving greater security and comfort to travelers, saving large expenditures for fences, many of which have been removed from the roadside, thus adding about eight per cent. to the amount of cultivated lands. Fruit and ornamental trees have been planted along the public highways, contribute to the comfort and pleasure of travelers, as well as to the beauty and value of the farms. Fences, being one of the heaviest expenses on the farm, should not be required when only needed to keep cattle on the public highway. The practice of letting cattle run at large on the highways is a nuisance, which should be abated by all proper remedies.

LABOR-SAVING MACHINERY,

By the great improvements in farming implements, a large part of the hardest work on the farm can now be done by horse power or steam. Formerly, at the approach of harvest time, it was necessary to procure additional force of able-bodied men, to cut and gather into the barn the heavy crops of hay and grain. And mechanics, from the neighboring villages, would frequently leave their shops for a time, and assist the farmers to secure their crops. But mark the change now! Although the harvest is larger, a less number of hands is required to gather it. The proprietor of a farm may now drive his favorite team and ride on Elliptics, while cutting his large fields of grass; his little son, with a hay tedder, can spread it all out to dry, and a young daughter, riding in a sulkey, can rake it into windrows from which the hay loader will put it on the wagon without a pitchfork, to be drawn to the barn, and lifted up to the peak by horse and dropped in either mow.

Who can think of the reaping machines, with self-binders, threshers and cleaners, which take the standing grain from the field, and prepare it for

the millers, merely by the direction of man, without admiring the supremacy of intellect, that has wrought so great a change.

FRUITS.

Perhaps the most valuable fruit to raise on the farm is the apple, which, ey a proper selection of varieties, may be had for family use all the year, and for any surplus thyt may be grown there will be a ready market Early apples, that can be picked up as they fall, and sent to a near market, are very profitable. In July last I called on a farmer near our place, who was gathering apples for the Philadelphia market. He had twenty-five trees of Red Astrachans, about fifteen years old, which had yielded this year, up to that time, an average of five baskets to a tree, and were not exhausted. The best of them brought \$1.25 per basket, others \$1.00. Allowing forty trees to the acre, at \$5.00 per tree, it gave \$200 per acre, and the fruit not all ripe then. He also had a fine crop of early Hagloe, Benoni, Maiden's Blush and other summer apples to succeed them, before commencing on the fall and winter varieties. I inquired what other crop he had that paid as well? he replied, none, said apples was his main dependence, with witch to pay expenses. Another farmer adjoining him, has an orchard of 180 apples trees principally early varieties, such as Bough, Early Harvest, Hagloe, Maiden's Blush, &c., fifteen years old, which yielded, last year, 2250 baskets average price 75 cents per basket, yielding \$1687, from about four acres of land in orchard. The fall and winter varieties bear transportation well, and may be shipped to distant markets.

The foreign demand is increasing as better means for carrying fruits with refrigerators are provided. I am informed that eleven thousand bushels of apples were shipped from Lambertville, near here, last fall. And in May of last year, there were fifteen hundred barrels sent to England from Philadelphia, and in the fall and winter months almost every steamer from New York for Liverpool or London takes apples varying from five hundred to several thousand barrels.

In one month it is reported that ninety thousand barrels of American apples were landed in Liverpool. They consisted mainly of the Baldwin, Rhode Island Greening and Pippins. Red apples generally command the best price in the English markets, where a decided preference is given to American apples, and twelve to fifteen thousand barrels per week may be disposed of at good prices. So that by the greatly improved facilities for shipping green fruit, we have the markets of the world to supply with the products of our orchards.

PREPARATION OF THE GROUND.

Some land is better adapted to the apple than others, though almost any soil that will grow corn can be made to produce a good crop of apples. If it is hard and compact, loosen well with a sub-soil plow; if poor and thin add fertilizing materials, lime, ashes, manure and bone dust, and form ridges or double furroughs on which to plant the trees; avoid deep planting, rather mound up the earth around the trees, leaving a small cavity to collect the rain, so that the roots shall have the full benefit of the surface sail in which to search for food. Leave the branches low. they protect the bodies of the trees, are less exposed to high winds, and the fruit is more easily gathered. Shorten in some of the longest branches so as to give a compact, uniform head. The ground should be planted with small fruits, corn, Potatoes, and other vegetables, for a few years, to encourage a vigorous growth until the trees have attained a bearing size, when by seeding the ground with clover, it will check the growth of wood and develope buds for producing a crop of fruit. Care should be taken not to permit young trees to overbear, or they may become so exhausted as to require the succeed year to recuperate their energies before producing another crop of fruit, and thus acquire the habit of bearing only in alternate years, so common with many orchards. In selecting trees, get those that are young and thrifty, not too large. Plant small trees: they cost less at the nursery, less in transportation, and in planting scarcely any will be lost, and their tops can be more properly shaped. Apple trees two years old are better than those of a more advanced age.

WHAT KIND TO PLANT.

From the large list of apples in cultivation it is no easy matter to decide which is the best and most profitable to grow. But let each farmer consider most favorably, thcse that are known to do well in his neighborhood.

Downing gives more than 3,400 names and synonyms of apples recorded and described in his work on fruit and fruit trees, from which the American Pomological Society have selected 322 as the most desirable for general cultivation, which number may still be reduced to about thirty for this section. I will name a few leading varieties, that have done well, and will do to commence with, to which others may be added as they prove to be valuable and deserving.

Market men, who raise fruit for profit, need but few kinds. Better send to market one hundred barrels of one or two well-known varieties, than to have a few barrels each of many kinds, some of

them of but little value. *Size and beauty* are the most important properties in the sale of apples, and any deficient in them will not be profitable, however good they may be in other respects.

SUMMMER APPLES.

Astrachan Red, Bough, Benoni, Early Harvest, Early Hagloe, Edwards' Early, Early Joe, Parry's White, Starr and Williams' Favorite.

AUTUMN VARIETIES.

Maiden's and Bachelor's Blush, Gravenstein, Orange Pippin, Nyack Pippin, Orange Apple, Porter, Pineapple, Princely, and Smokehouse.

WINTER.

Baldwin, Smith's Cider, Carthouse, Cooper's Redling, Cornell's Fancy, Fallawater, Fall Harvey, Lippincott Sweet, Roman Stem, Ridge Pippin and Winesop. The time required for apples to come into bearing, may have deterred some from planting orchards as extensively as the fruit deserves. True it takes longer to obtain the crop than it does from berries and vegetables; but the first purchase and planting, as well as the after culture are much less, and they last much longer. And while the apple trees are small other crops can be grown to advantage among them, and should be planted in young orchards for the double purpose of the annual returns and the permanent health and vigor of the trees.

There is no necessity for losing the use of the land while the trees are growing into profit, but it may, with great advantage, be closely occupied with small fruits and vegetables, yielding large annual returns, until the trees are large enough to require the whole space.

I will name a few instances that have come under my own observation, where small fruits and vegetables have been successfully grown in young orchards. One orchard of about seven acres, planted fifteen years since, in 1863, is now yielding fine crops of apples and the land between the trees has produced annually large crops of small fruits. The apple trees were planted forty feet apart and a row of early Richmond cherry trees set each way between them, requiring three times as many cherry as apple trees; then a row of blackberries in the tree rows and between them, being ten feet apart; then a row of strawberries between them, leaving five feet space for cultivation. Next year 1864 the strawberries were in full bearing, yielding more than \$200 per acre. In 1865 the strawberries yielded about half a crop, and after picking the fruit, the vines were ploughed under, and turnips planted in July, which produced a good fall crop. The next year, 1866, the blackberries gave a fine crop

of fruit and continued to do so five or six years yielding about \$200 per acre, annually. When the blackberries declined, they were all removed and gooseberries planted, four rows each way between the larger fruit trees. The cherry trees commenced bearing the third year after planting, and have borne full crops nearly every year since, the quantity increasing each year with the size of the trees. For several years the cherries have been worth from \$200 to \$300 per acre, and sometimes more. One year the whole crop was sold to the proprietors of a canning factory near by, at ten cents per pound; there were eighty cherry trees to the acre, and many of them yielded seventy-five pounds each. The cherry trees in the apple rows now begin to crowd them and should soon be removed, while those standing in the centre of four apple trees will have plenty of room for many years, and can remain, leaving as many rows of cherry trees, forty feet apart, as of apples, on the same ground. By pursuing the above plan, there may be taken from \$200 to \$300 worth of fruit per acre, annually, before the apple trees acquire size enough to bear much fruit; and thus avoid the usual ejection urged against the planting of apple orchards, viz: that it requires so long a time before any profit can be derived from the land thus occupied.

[TO BE CONTINUED.]

THE STATE GRANGE.

The Maryland State Grange held its sixth annual session in Baltimore during last month. There are 150 subordinate Granges in the state and a large proportion of them were represented. The proceedings were such as might have been looked for, by an assemblage of such distinguished representative men of the farming interest in Maryland.

Among the important things demanding Legislative redress was asked, are abolition of State Tobacco Inspection, the taxing of mortgages and increased representation for agricultural communities. It was stated that those engaged in agriculture were 52 per cent. of the population of the state. We cannot say that we are prepared to coincide with the views of the Grange in regard to taxing mortgages, as it might prove detrimental to the interests of the agriculturist who has to borrow money. Somebody must pay the piper. The lender will likely add the tax to the *bonus* and thus the owner of the land will be paying a double tax on his land which the force of circumstances compelled him to mortgage. We should have liked to have seen a high dog-tax recommended.

BOLSTER SPRINGS FOR FARM WAGONS.

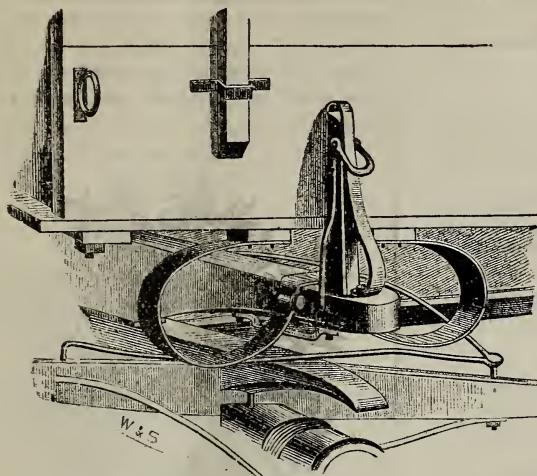


Fig. 1. Showing the Spring in operation.

This is a new invention, called "Pulliam's Patent," see advertisement in this number of MD. FARMER. It seems to us that this invention will be of incalculable value to our farmers and at a trifling cost. It is simply an attachment to the bed of the wagon by four bolts, and of course goes with the bed or body of the wagon when lifted off the running gears. It is not intended, however, to be taken off and put on again for different kinds of use, but to remain permanently and work to equal advantage with an empty or loaded wagon. There is no possibility of breakage, from the fact that a jolt or an overload only brings the bed down to rest on the bolster, which does not bring the spring to its full tension. Its obvious advantages are that it saves largely from wear and tear in every part of the wagon, it removes all necessity for a spring seat, and makes a spring wagon equally comfortable for from one to twenty persons. It is, of course, adapted to all makes of farm wagons, and can be attached by any one.

We deem this invention as of great importance to every farmer who owns a wagon. At small expense he can contribute much to his comfort and save in the wear of his wagon; therefore we can recommend this new improvement with confidence, assured that all who try it will thank us for this reminder.

CHEAP ICE HOUSES AND HOW TO KEEP ICE.

The *Practical Farmer* gives a practical example of how easy it would be for every farmer's family to have the luxury of ice through the hot summer months. Here is how one farmer had it in abundance:

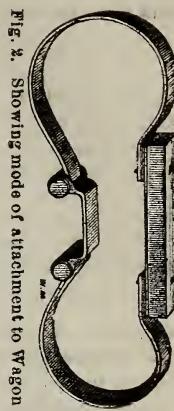


FIG. 2. Showing mode of attachment to Wagon bed.

dance: All that is needed is the simplest kind of a board building. I built a wood shed last season, thirty feet long and fourteen wide, and used twelve feet at the north end for ice, and notwithstanding the fact that we had but one freeze last winter, and only got our ice-house two-thirds full of ice less than six inches thick; we have used not less than fifty pounds a day since the first of May, and have let our neighbors have at least 1,000 pounds. We still have plenty of ice, and think it will last through September. For drainage we threw in a foot of stone, varying in size from a goose egg up to those that would weigh ten or fifteen pounds each. On this we put a foot of sawdust, and then packed the ice as close as possible, leaving a space of fifteen inches all around the outside. The ice should be cut as true as possible, so as to pack closely, and every crack should be filled closely with broken ice. It should be filled in cold weather, so that the ice will freeze solid, and you should have sawdust on hand to cover it at once. Take great pains to pack the sawdust well around the outside. As soon as the open windy weather of March sets in, visit the ice-house every day, and with a spade in your hand tramp around and feel with the spade for holes, and when you find them, fill and tramp solid. In a small ice-house that is absolutely necessary if you expect to keep your ice through the summer. I am satisfied that my ice wasted more in March and April than in July and August. A body of ice ten feet square and ten feet high, well packed and covered with sawdust to the depth of eight inches, will keep through the hottest season we ever have, if attention is given to it daily; but a week's neglect, even in March, may work a hole through it from top to bottom, and leave you without ice in midsummer.

LADIES DEPARTMENT.

Chats with the Ladies for January.

BY PATUXENT PLANTER.

Ring out the old, ring in the new,
 Ring happy bells across the snow ;
 The year is going, let him go ,
 Ring out the false, ring in the true.

Ring out the grief that saps the mind
 For those that here we see no more,
 Ring out the feud of rich and poor,
 Ring in redress for all mankind.

Ring out the want, the care, the sin,
 The faithless coldness of the times ;
 Ring in the love of truth and right,
 Ring in the common love of good.

Ring out old shapes of foul disease,
 Ring out the narrowing lust of gold ;
 Ring out the thousand wars of old,
 Ring in the thousand years of peace.

Ring in the valiant man and free,
 The larger heart the kindlier hand,
 Ring out the darkness of the land,
 Ring in the Christ that is to be.

These lines of Tennyson give poetic expression to the usual greetings and congratulations, encouraging aspirations for the New Year as well as sad recollections of the year just ended. There is no year in our lives that has not had some unhappy event touching each individual, but such is the irrepressible fate of human nature. But we hope that Christmas of 1878 had few occurrences to cast shadows over the hearts of my lady readers when they hailed the 1878th anniversary of our Saviour's birth. To one and to all I extend my greeting on the New Year of 1879, and sincerely wish that it may be a year of blessings, of increased prosperity and happiness to our immediate friends and acquaintances and to the whole people of our re-united Republic. These two great festivals call forth by their associations the existence of our highest virtues—the forgiveness of those who have sinned against us and charity to the poor and suffering. We should see that we practice these holy attributes and make glad the hearts of suffering women, men and little children.

Now, when the weather is usually such as to keep ladies house bound, books of instruction and amusement, void of trashiness too common in the publications of the day, should be read daily, both for recreation from work and mental improvement.

Some time should be given to the flowers indoors and in the pits or conservatory. Among the

pretty and easily grown plants for house-culture and ornament, I know of few that surpass the "Solanums." I give a cut of one in Mr. Vick's "Illustrated Monthly Magazine" for December, with what that venerable and world-renowned florist says of it.

SOLANUMS.



The Solanums are very pretty winter plants, of which there are many varieties, some of them recently recommended to the people. The old *Jerusalem Cherry* is of course well known to all old gardeners, but it is not now so commonly grown as formerly. There is a very pretty dwarf variety called *S. pseudo-capsicum nanum*, of which we give an engraving, and the last number of the *London Gardener's Chronicle* introduces a new variety, named as *Solanum hybridum, Empress*, with the following remarks: "Few ornamental plants are more useful in autumn than the various compact-growing, berry-bearing Solanums, of which the older, *S. pseudo-capsicum* and *Capsicastrum*, and the more modern forms, known as *Hendersoni* and *Weatherall's Hybrid*, are familiar examples. The plant is allied to these latter, and may in fact be regarded as a good selection of Weatherall's strain. Mr. Williams, by whom it is being sent out, says that it is "one of the finest forms of recent introduction." The plant is singularly compact and short-joined in habit, and is completely laden with large bright coral-red berries, which are more or less clustered. As these berries take on color they are said to thrust themselves beyond the leaves, as it were, so as to become fully exposed to view. This dwarf compact habit, and the profusion in which the highly-colored fruits are produced, will make it an invaluable decorative plant."

Baltimore Machinery Abroad.

The increased foreign demand for agricultural implements made in this country is very perceptible, and shows that in this particular line we take the lead. Messrs. E. Whitman, Sons & Co., of this city, shipped yesterday one large order of goods of their own manufacture to Akyab, in the East Indies, via London, and another to the West Indies, via New York, and only a few weeks ago a lot of their Young America corn and cob mills to Mexico. These are not the first of their goods which have gone to these countries, but are orders coming from customers who have had and used their goods before.

The Messrs. Whitman presented us with a sample of tea seed sent to them by their Akyab correspondent for the purpose of having machines made to plant them with, and they are going to get up some planters purposely for dropping tea seed. The seed, which is quite a curiosity, very much resembles a filbert in appearance, being about the same size and with a hard shell, enclosing a kernel or nut. Messrs. Whitman say that some of their goods shipped to Akyab last spring are attracting great attention, and that the order filled yesterday, in some instances, was for more of the same articles that they shipped before. *Daily News.*

URANINE.

This is the most recently discovered, and perhaps the most remarkable, of all the coal tar or aniline group of coloring substances, now so extensively used for the adornment of the finest fabrics. Uranine is said, by chemists, to be the most highly fluorescent body known to science. Its coloring power is astonishing; a single grain will impart a marked color to nearly five hundred gallons of water.

A most interesting experiment, which anybody may try, consists in sprinkling a few atoms of Uranine upon the surface of water in a glass tumbler. Each atom immediately sends down through the water what appears to be a bright green rootlet; and the tumbler soon looks as if it were crowded full of beautiful plants. The rootlets now begin to enlarge, spread and combine, until we have a mass of soft green-colored liquid. Viewed by transmitted light, the color changes to a bright golden or amber hue; while a combination of green and gold will be realized, according to the position in which the glass is held. For day or evening experiment nothing can be prettier than these trials of Uranine, which are especially entertaining for the young folks. We are indebted for examples of the color to the editors of the *Scientific American*, who are sending out specimens, free of charge, to all their readers. The subscription to the paper is \$3.20 for a year, or \$1.60 half year; and a better investment for the money could hardly be named.

THANKS.

We are glad to acknowledge that the change in our Terms, to suit the times, is receiving its reward. The dollar subscriptions for 1879 are coming in freely. Our old subscribers come up bravely so as to secure the benefit of the reduction in price of the "Maryland Farmer." Come on gentlemen and continue encouraging good work at low price, these hard times.

Maryland Agricultural Society.

A meeting of the Executive committee of the Maryland Agricultural and Mechanical Association was held, on Saturday 21st inst., at the office of the association, No. 69 West Fayette street, Mr. McKellip presiding.

The meeting was called to take action on a circular recently issued by Mr. Joseph H. Rieman and others, taking exceptions to the legality of an election held for the officers of the society during its fall exhibition at Pimlico. —Gov. Bowie offered a resolution, which was adopted, setting forth that the legality of the election had been ably illustrated in a legal opinion given by Hon. S. Teackle Wallis, and yet the authors of the circular, while announcing their intention of abiding by said election, have seen fit to call the attention of the society to the mode and spirit in which said election was conducted.

The resolution further states that one of the gentlemen recently elected on the Executive Committee largely represents the mechanical industry of Baltimore, and has been one of the largest exhibitors and most liberal contributors to the society, which will hardly inspire in the minds of any but the hopelessly prejudiced the belief that the interests of the society are to be sacrificed.

The resolution further embodies the fact that there is not and should not be any antagonism between the society and the Maryland Jockey Club in the mutual enjoyment of the grounds at Pimlico.

To the efforts of gentlemen interested in both enterprises the society was indebted in a great measure for the city appropriation of \$25,000, as well as for a large amount of what was subscribed by private citizens. It was under the auspices of these same gentlemen that the Maryland Jockey Club was organized in 1870, with a membership composed largely of members of the society, and owning, in their individual capacity, more than one-half of the whole of the private subscription contributed for the improvement of the grounds.

The charge that the Jockey Club had the controlling influence in the Agricultural Society is indignantly denied, and, in the language of the resolution, they have felt that the true interests of both associations were to be found in the development and embellishment of the grounds at Pimlico and to their preservation for the joint uses and purposes of both associations.

Governor Bowie's resolution concludes by saying that "in the future relations between the Agricultural Society and the Jockey Club, the committee feels no apprehension of anything transpiring prejudicial to the benefit and promotion of the agricultural interests of the State, or in plain perversion of the interest and purpose of the contributors of the large sum of money that has been expended upon Pimlico.—*Maryland Journal*, Townstown.

In addition, we learn that it was asserted that the Jockey Club had advanced \$10,000 to the Agricultural Society to pay off outstanding debts in 1870, besides very large sums expended in completing and perfecting the track, in draining and filling low grounds within the inclosure, in opening and improving new avenues of approach, and since the year 1874 with the entire expense of maintaining the grounds and its buildings, including the renewal of premiums on its policies of insurance, representing an annual saving to this Society of at least \$1,200.

MUTTON HAMS.—The following is from a correspondent of the New York *Times*:

As a change from a too frequent pork, eggs and poultry diet, mutton hams would be very desirable. A sheep slaughtered occasionally would furnish sufficient fresh meat for a week's consumption, without the legs and shoulders. These may be cured as hams, and furnish a toothsome change of diet, either sliced raw or lightly broiled over clear coals. To cure the hams, proceed as follows: The legs of a fat sheep are cut into the shape of hams, and rubbed over with a mixture of equal parts of bay salt and brown sugar. They then remain 24 hours. A pickle is made as follows: Two lbs. each of bay and common white salt, 6 ozs. of saltpetre, and 1 lb. of brown sugar are boiled in 4 quarts of water, the liquid being skimmed as it boils; when the pickle is cold the hams are put into it and kept covered for two weeks. They are then taken out, wiped dry, hung up and smoked over a slow fire of damp wheat straw. The knuckles should be filled with brown sugar and tied over closely with pieces of bladder. The hams are then hung up in a warm place, which causes the fat to partly melt had become absorbed by the lean meat. A few sweet herbs may be pounded and mixed with the pickle to add desired flavor. The shoulders may be prepared by removing the blade bones and treating them as above, taking care to rub the openings with plenty of the mixed salt and sugar. When taken from the pickle these should be sewed up. To keep the meat, place it in a clean box between layers of sweet hay, cover with a close-fitting following lid, upon which a weight should be laid.

THE INTERNATIONAL DAIRY FAIR held during the first week in December in New York city, proved a grand success. Through the polite attention of Mr. J. H. Reall of New York we have been kept posted with the full proceedings, which are not only extremely interesting, but the facts made known are astounding. We are, this first month of the New Year, so crowded with matter we cannot give more mention of this great Institution than to say that in the coming numbers of the MD. FAR. we shall give a succinct account of the proceedings and extracts from the more important addresses and essays delivered by such distinguished gentlemen as Gov. Horatio Seymour, Gen. B. F. Butler, F. D. Moulton, Esq. and others.

TO MEASURE CORN IN A CRIB.—This rule will apply to a crib of any size or kind. Two cubic feet of good, sound, dry corn, in the ear, will make a bushel of shelled corn. To get, then, the quantity of shelled corn in a crib of corn in the ear, measure the length, breadth and height of the crib inside of the rail; multiply the length by the breath, and the product by the height; then divide the product by two, and you have the number of bushels of shelled corn in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together, and this by 8, and point off one figure by the product for decimals.

SUCCESSFUL BEE KEEPERS.—For the encouragement of beginners in bee-keeping, I wish to relate the success of two gentlemen of Carson City, Montcalm Co., Mich., who began keeping bees, for the first time, this season. One of them, Mr. O. R. Goodno, started in the spring with thirteen hives. From this stock, although this year has not been very favorable for bee-keepers, he has during the summer sold 1,000 pounds of honey, one-half of which was sold in the comb, the rest extracted, and, moreover he has increased his stock to thirty-three colonies. The increase of colonies alone, gives him a margin of at least, 150 per cent. on the investment, besides the 1,000 pounds of honey.

The other gentleman, Mr. C. O. Cross, invested last spring \$500 in forty-seven colonies. He has not only sold honey enough to regain the investment, but has increased his apiary to eighty-one strong colonies, which altogether shows a margin 300 per cent. on the investment.—*Cor. Rural New Yorker*.